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Vol. I

TRANSCRIPT OF RECORD

Supreme Court of the United States

OCTOBER TERM, 1942

4445

No. 721

THE NORTH AMERICAN COMPANY, PETITIONER,

vs.

SECURITIES AND EXCHANGE COMMISSION

ON WRIT OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE SECOND CIRCUIT

PETITION FOR CERTIORARI FILED FEBRUARY 10, 1943.

CERTIORARI GRANTED MARCH 1, 1943.

IN THE

United States Circuit Court of Appeals

FOR THE SECOND CIRCUIT.

THE NORTH AMERICAN COMPANY,

Petitioner,

against

SECURITIES AND EXCHANGE COMMISSION,

Respondent.

PETITION TO REVIEW ORDER OF SECURITIES AND EXCHANGE COMMISSION

SULLIVAN & CROMWELL,
Attorneys for Petitioner,
48 Wall Street,
New York, N. Y.

Pandick Press, Inc., 22 Thames St., New York, U. S. A.

IN THE

United States Circuit Court of Appeals

FOR THE SECOND CIRCUIT.

THE NORTH AMERICAN COMPANY,
Petitioner,

against

SECURITIES AND EXCHANGE COMMISSION,
Respondent.

PETITION.

To the Honorable The United States Circuit Court of Appeals for the Second Circuit:

The petition of The North American Company respectfully shows:

1. Petitioner is a corporation organized and existing under the laws of the State of New Jersey, engaged in the business of holding securities for investment, and having its principal place of business in the City of New York, in the Second Judicial Circuit of the United States.

2. The Securities and Exchange Commission (hereinafter called the "Commission") was established under Section 4, Title I of the Securities Exchange Act of 1934 and is charged with the administration of the Public Utility Holding Company Act of 1935 (hereinafter called the "Act").

3. Petitioner seeks review of an order of the Commission dated April 14, 1942, entered in a proceeding initiated by a notice and order for hearing dated March 8, 1940, directed by the Commission against petitioner and various of its subsidiaries under Section 11(b)(1) of the Act. A copy of said order, dated April 14, 1942, is annexed hereto.

4. The notice and order for hearing, which initiated the proceeding, among other things directed petitioner to file its answer admitting or denying various allegations, among which was an allegation that:

> "The holding company system of The North American Company is not confined in its operations to those of a single integrated public utility system within the meaning of the Act, and to such other businesses as are reasonably incidental, economically necessary or appropriate to the operations of such integrated public utility system."

Section 11(b)(1) of the Act provides as follows:

> "(b) It shall be the duty of the Commission, as soon as practicable after January 1, 1938:
>
> "To require by order, after notice and opportunity for hearing, that each registered holding company, and each subsidiary company thereof, shall take such action as the Commission shall find necessary to limit the operations of the holding-company system of which such company is a part to a single integrated public-utility system, and to such other businesses as are reasonably incidental, or economically necessary or appropriate to the operations of such integrated public-utility system: *Provided, however*, That the Commission shall permit a registered holding company to continue to control one or more additional integrated public-utility systems, if, after notice and opportunity for hearing, it finds that—

(A) Each of such additional systems cannot be operated as an independent system without the loss of substantial economies which can be secured by the retention of control by such holding company of such system;

(B) All of such additional systems are located in one State, or in adjoining States, or in a contiguous foreign country; and

(C) The continued combination of such systems under the control of such holding company is not so large (considering the state of the art and the area or region affected) as to impair the advantages of localized management, efficient operation, or the effectiveness of regulation.

The Commission may permit as reasonably incidental, or economically necessary or appropriate to the operations of one or more integrated public-utility systems the retention of an interest in any business (other than the business of a public-utility company as such) which the Commission shall find necessary or appropriate in the public interest or for the protection of investors or consumers and not detrimental to the proper functioning of such system or systems."

5. On May 16, 1940, petitioner filed its answer to the above mentioned order admitting or denying various allegations and alleging as an affirmative defense the unconstitutionality of Section 11(b)(1) as applied to it. Such answer also sets forth various steps which petitioner proposed to take voluntarily, without, however, waiving any of its constitutional or other rights.

6. On June 7, 1940, petitioner moved to have the proceedings held in abeyance until petitioner had had an opportunity to take the voluntary steps set forth in its answer and until the Commission had made the investigations,

studies and public recommendations required by Section 30 of the Act. On June 18, 1940, petitioner moved for a dismissal of the proceedings on the ground that the Commission was without power to institute proceedings under Section 11(b)(1) until it had made the investigations, studies and public recommendations required by Section 30 of the Act, and further alleging that the notice and order instituting the proceedings prior to the making of such investigations, studies and recommendations would deprive petitioner of property without due process of law in violation of the Fifth Amendment to the Constitution. Both of these motions were denied by the Commission.

7. Hearings were held before a Trial Examiner of the Commission at various times between June 21, 1940 and April 15, 1941, at which evidence was introduced with respect to the extent, operations and relationships of the corporations in the petitioner's holding company system. On May 23, 1941, petitioner's requested findings of fact were filed with the Commission, together with a brief in support thereof. Counsel for the Public Utilities Division likewise filed requested findings of fact and a brief and reply brief, and a reply brief was filed by petitioner on June 2, 1941. Oral argument was had before the Commission on June 2, 1941, at which time the Commission took the matter under advisement and ultimately entered its order of April 14, 1942.

8. The order of the Commission dated April 14, 1942 directs petitioner to divest itself of substantially all of its assets, other than its investments in Union Electric Company of Missouri and its subsidiaries, and in The St. Louis County Gas Company and 60 Broadway Building Corporation.

9. The said order of April 14, 1942, provided that within fifteen days from the date thereof petitioner could file with the Commission a petition for leave to present further argument and proffer additional evidence with respect to the question of whether any integrated public utility system other than the Union Electric system designated in the Commission's findings and opinion should serve as petitioner's principal system. On April 29, 1942 such a petition was filed, and, on information and belief, such petition has not yet been acted on by the Commission.

10. At the hearings before the Trial Examiner, petitioner introduced sworn testimony and documentary evidence in support of the position taken by it with respect to the issues raised by the notice and order for hearing. In its briefs, requests for specific findings of fact and oral argument, petitioner specified the findings of fact and conclusions to which it believed it was entitled by the record and the constructions of the Act for which it contended. Petitioner has at all times reserved and refused to waive its constitutional and legal rights. The objections to the order of the Commission hereinafter set forth and the points hereinafter specified upon which petitioner intends to rely were all duly urged before the Commission.

11. The jurisdiction of this Court is invoked under Section 24 of the Act, which provides that any person aggrieved by an order issued by the Commission under the Act may obtain a review of such order in the Circuit Court of Appeals of the United States within any Circuit wherein such person has his principal place of business.

12. The order to be reviewed hereunder is invalid and void and should be set aside in its entirety for the reason that Section 11(b)(1), as interpreted by the Commission

in its findings and opinion dated April 14, 1942 and as applied in its order of said date, is unconstitutional for the reasons, among others, that it constitutes an improper delegation of legislative power, that it establishes unduly vague and indefinite standards, that it deprives petitioner and its security holders of their property without due process of law, that it exceeds the power of Congress to regulate interstate commerce and imposes arbitrary and unconstitutional restrictions upon such commerce and is not a valid exercise of any power conferred by the Constitution upon Congress.

13. The order to be reviewed hereunder is invalid and void and should be set aside in its entirety, for the reason that it was contrary to the provisions of the Act and to the intent and mandate of Congress for the Commission to proceed by notice and order pursuant to Section 11(b)(1) until the Commission had made its investigations and studies and made public its recommendations as to the type and size of geographically and economically integrated public utility systems which can best promote and harmonize the interests of the public, the investor and the consumer, which investigations, studies and recommendations the Commission is directed to make by Section 30 of the Act; and to institute and carry forward the proceeding and enter orders therein before the Commission had made such studies and published such recommendations deprived petitioner of property without due process of law in violation of the Fifth Amendment to the Constitution.

14. The order to be reviewed hereunder is invalid and void and should be set aside in so far as it directs petitioner to divest itself of its investments in Wisconsin Electric Power Company and its subsidiaries, Wisconsin Gas & Electric Company, Wisconsin Michigan Power Company,

Milwaukee Light, Heat & Traction Company and Hevi-Duty Electric Company (hereinafter collectively called the "Wisconsin Michigan Group"), The Cleveland Electric Illuminating Company and its subsidiaries, The Detroit Edison Company and its subsidiaries, Pacific Gas & Electric Company and its subsidiaries, West Kentucky Coal Company and its subsidiaries, and North American Utility Securities Corporation, for the reasons that

(a) The Commission erred in failing to find the facts requested by petitioner in its requested findings of fact numbered 3.5, 3.10, 3.11, 4.1 to 4.23, inclusive, and 6.1 to 6.38, inclusive.

(b) The Commission erred in finding, without substantial evidence and contrary to substantial evidence, that the electric utility systems of Union Electric Company of Missouri and its subsidiaries, the Wisconsin Michigan Group and The Cleveland Electric Illuminating Company are not located in adjoining states within the meaning of Section 11(b)(1).

(c) The Commission erred in failing to find, contrary to substantial evidence, that the continued combination of the electric utility systems of Union Electric Company of Missouri and its subsidiaries, the Wisconsin Michigan Group and The Cleveland Electric Illuminating Company, or any two thereof, under the control of petitioner is not so large (considering the state of the art and the area or region affected) as to impair the advantages of localized management, efficient operation or the effectiveness of regulation.

(d) The Commission erred in failing to find, contrary to substantial evidence, that each of the electric utility systems of Union Electric Company of Missouri and its subsidiaries, the Wisconsin Michigan Group and The Cleveland Electric Illuminating Company cannot be operated as an independent system without the loss

of substantial economies which can be secured by the retention of control by petitioner of such system.

(e) The Commission erred in failing to find, contrary to substantial evidence, that petitioner's investments in The Detroit Edison Company, Pacific Gas & Electric Company, West Kentucky Coal Company and North American Utility Securities Corporation, and each of them, are reasonably incidental or economically necessary or appropriate to the operations of its integrated public utility system.

(f) The Commission erred in finding, without substantial evidence and contrary to substantial evidence, that petitioner was required to designate in advance the single integrated public utility system retainable by it under Section 11(b)(1), and in failing to find that any one of the Union, Wisconsin-Michigan and Cleveland systems might be so retained as the principal system, with the other two as additional systems.

(g) The Commission erred in failing to find, contrary to substantial evidence, that under a proper construction of Section 11(b)(1), petitioner is entitled to retain in its holding company system the electric utility systems and other businesses of Union Electric Company of Missouri and its subsidiaries, the Wisconsin Michigan Group and The Cleveland Electric Illuminating Company and its subsidiaries, together with petitioner's investments in The Detroit Edison Company, Pacific Gas & Electric Company, West Kentucky Coal Company and North American Utility Securities Corporation.

15. Petitioner is aggrieved by said order because by reason thereof it is required to divest itself of its valuable investments in The Cleveland Electric Illuminating Company and its subsidiaries, the Wisconsin Michigan Group, The Detroit Edison Company and its subsidiaries, Pacific

Gas & Electric Company and its subsidiaries, West Kentucky Coal Company and its subsidiaries and North American Utility Securities Corporation. Since said order of the Commission, dated April 14, 1942, by its terms must be complied with within one year, unless extended by the Commission in its discretion, it is essential that the review of said order operate as a stay thereof.

16. No previous application for the relief sought in this petition has been made to any other court or judge.

WHEREFORE your petitioner respectfully prays that this Honorable Court review the order dated April 14, 1942, issued by the Commission against your petitioner and others, stay said order of the Commission during the pendency of such review, set said order aside in its entirety and grant such other and further relief as to the Court may seem just and equitable.

THE NORTH AMERICAN COMPANY

By EDWARD L. SHEA
President

SULLIVAN & CROMWELL,
Attorneys for Petitioner,
48 Wall Street,
New York, N. Y.

STATE OF NEW YORK, }
COUNTY OF NEW YORK, } ss.:

EDWARD L. SHEA, being duly sworn, deposes and says that he is President of THE NORTH AMERICAN COMPANY and that he has read the above petition by him subscribed and knows the contents thereof, and that the same is true of his own knowledge, except as to matters stated therein to be on information and belief, and as to those matters he believes it to be true.

EDWARD L. SHEA

Sworn to before me this }
12th day of June, 1942. }

ARTHUR MAYER

ARTHUR MAYER
Notary Public, Nassau Co. L. 1903
New York Co. Clerk's No. 533
New York Co. Register's No. 3M-342
Term Expires March 30, 1943

(Seal)

UNITED STATES OF AMERICA

BEFORE THE

SECURITIES AND EXCHANGE COMMISSION

At a regular session of the Securities and Exchange Commission, held at its office in the City of Philadelphia, Pa., on the 14th day of April, A. D., 1942.

IN THE MATTER *of* THE NORTH AMERICAN COMPANY *and* ITS SUBSIDIARY COMPANIES Respondents. File No. 59-10 Public Utility Holding Company Act of 1935—Section 11(b)(1)	Order Requiring Divestiture by Holding Companies and Subsidiaries in Holding Company System of Companies and Properties Owned or Operated Thereby.

The Commission having on March 8, 1940, by notice and order for hearing, supplemented by a notice and order dated August 12, 1940, adding certain companies as respondents, instituted proceedings under Section 11(b)(1) of the Public Utility Holding Company Act of 1935 against The North American Company and its subsidiaries to determine their status under said section, and The North American Company and its subsidiaries having severally answered such notice and order; and

Hearings having been held after due notice, requests for findings of fact on behalf of such companies and briefs in support thereof having been filed, oral argument having been heard; and

The Commission being advised in the premises, and having this day issued its Findings and Opinion with respect to certain action which the Commission finds necessary to limit the operations of the holding company systems of The North American Company and its subsidiaries, including each subsidiary thereof which is a registered holding company and its subsidiaries, to a single integrated public utility system and additional systems and other businesses in accordance with the requirements of Section 11(b)(1) of the Public Utility Holding Company Act of 1935;

IT IS ORDERED, pursuant to Section 11(b)(1):

1. That The North American Company, a registered public utility holding company, shall sever its relationship with the companies named hereafter by disposing or causing the disposition, in any appropriate manner not in contravention of the applicable provisions of the said Act or the Rules and Regulations promulgated thereunder, of its direct and indirect ownership, control and holding of securities issued and properties owned, controlled or operated by the following companies:

Union Electric Land and Development Company
East St. Louis & Suburban Railway Company
East St. Louis Railway Company
Wisconsin Electric Power Company
The Milwaukee Electric Railway & Transport Company
Motor Transport Company
Badger Auto Service Company
Wisconsin Gas & Electric Company
Wisconsin Michigan Power Company
Milwaukee Light, Heat & Traction Company
Hevi-Duty Electric Company
The Cleveland Electric Illuminating Company
The Power & Light Building Company
The Ceico Company
North American Light & Power Company
The Kansas Power and Light Company

Missouri Power & Light Company
The Blue River Power Company
The McPherson Oil & Gas Development Company
Power & Light Securities Company
North American Oil and Gas Company
Northern Natural Gas Company
Argus Natural Gas Company, Inc.
Peoples Natural Gas Company
Illinois Traction Company
Kewanee Public Service Company
Cahokia Manufacturers Gas Company
Western Illinois Ice Company
Illinois Iowa Power Company
Des Moines Electric Light Company
Iowa Power and Light Company
Illinois Terminal Railroad Company
Central Terminal Company
Cairo City Gas Company
Champaign and Urbana Gas Light and Coke Company
Danville Gas Light Company
Decatur Electric Company
The Jacksonville Gas Light & Coke Company
Jacksonville Railway and Light Company
St. Louis Electric Terminal Railway Company
Venice Gas Company
Washington Railway and Electric Company
Potomac Electric Power Company
Great Falls Power Company
The Washington and Rockville Railway Company of Montgomery County
Braddock Light & Power Company, Incorporated
Capital Transit Company
Montgomery Bus Lines, Incorporated
The Glen Echo Park Company
West Kentucky Coal Company (New Jersey)
West Kentucky Coal Company (Delaware)
Peoples Coal Company
St. Bernard Coal Company

North American Utility Securities Corporation
Pacific Gas and Electric Company and its subsidiaries
The Detroit Edison Company and its subsidiaries;

2. That Union Electric Company of Missouri, a registered public utility holding company, shall sever its relationship with the companies named hereafter by disposing or causing the disposition, in any appropriate manner not in contravention of the applicable provisions of the said Act or the Rules and Regulations promulgated thereunder, of its direct and indirect ownership, control and holding of securities issued and properties owned, controlled or operated by the following companies:

Union Electric Land and Development Company
East St. Louis & Suburban Railway Company
East St. Louis Railway Company;

3. That Washington Railway and Electric Company, a registered public utility holding company, shall sever its relationship with the companies named hereafter by disposing or causing the disposition in any appropriate manner not in contravention of the applicable provisions of the said Act or the Rules and Regulations promulgated thereunder, of its direct and indirect ownership, control and holding of securities issued and properties owned, controlled or operated by the following companies:

Great Falls Power Company
Capital Transit Company
Montgomery Bus Lines, Incorporated
The Glen Echo Park Company;

4. That Washington and Rockville Railway Company of Montgomery County, a registered public utility holding company, shall sever its relationship with the company named hereafter by disposing or causing the disposition, in any appropriate manner not in contravention of the applicable provisions of the said Act or the Rules and Regulations promulgated thereunder, of its direct and indirect

ownership, control and holding of securities issued and properties owned, controlled or operated by:

Great Falls Power Company;

5. That Northern Natural Gas Company, a registered public utility holding company, shall sever its relationship with the company named hereafter by disposing or causing the disposition, in any appropriate manner not in contravention of the applicable provisions of the said Act or the Rules and Regulations promulgated thereunder of its direct and indirect ownership, control and holding of securities issued and properties owned, controlled or operated by:

Argus Natural Gas Company;

6. That Illinois Traction Company, a registered public utility holding company, shall sever its relationship with the companies named hereafter by disposing or causing the disposition, in any appropriate manner not in contravention of the applicable provisions of the said Act or the Rules and Regulations promulgated thereunder, of its direct and indirect ownership, control and holding of securities issued and properties owned, controlled or operated by the following companies:

Western Illinois Ice Company
Des Moines Electric Light Company
Iowa Power and Light Company
Illinois Terminal Railroad Company
Central Terminal Company
St. Louis Electric Terminal Railway Company;

and that Illinois Traction Company shall cease to own facilities devoted to, or engage in or control, directly or indirectly, the operation of any water, ice, oil drilling and transportation business now conducted by Illinois Iowa Power Company;

That Illinois Iowa Power Company, a registered public utility holding company, shall sever its relationship with

the companies named hereafter by disposing, or causing the disposition, in any appropriate manner not in contravention of the applicable provisions of the said Act or the Rules and Regulations promulgated thereunder, of its direct and indirect ownership, control and holding of securities issued and properties owned, controlled or operated by the following companies:

Des Moines Electric Light Company
Iowa Power and Light Company
Illinois Terminal Railroad Company
Central Terminal Company
St. Louis Electric Terminal Railway Company;

and that Illinois Iowa Power Company shall cease to own or operate any property or facilities now owned or operated by it for the purpose of conducting, directly or indirectly, any water, ice, oil drilling and transportation business now conducted by it, and to cease engaging, directly or indirectly, in any water, ice, oil drilling and transportation business now engaged in by it; and

It is Further Ordered that the respondents, in accordance with Section 11(e) of the said Act, shall comply with this order within one year from the date of its entry (without prejudice to their right to apply for additional time to comply with such order, as provided in such section).

Certain of the respondents in this proceeding which are registered public utility holding companies controlling or operating more than one single integrated public utility system, although heretofore afforded opportunity to indicate their choice of the single integrated system they desire to retain as their principal system, having failed to avail themselves of such opportunity, and the Commission desiring, nevertheless, that further opportunity be afforded such respondents to indicate their views with respect to the choice of a principal system;

It is Further Ordered that notwithstanding the provisions of Rule XII(d) of the Commission's Rules of Prac-

tice, The North American Company, Northern Natural Gas Company, Illinois Traction Company, and Illinois Iowa Power Company may, within 15 days of the date hereof, petition for leave to present further argument and proffer additional evidence as follows:

1. The North American Company may petition for opportunity to present further argument or additional evidence on the question whether any single integrated public utility system, other than the integrated electric utility system of the Union group as described in our Findings and Opinion herein this day issued, shall serve as its principal system;

2. Northern Natural Gas Company may petition for opportunity to present further argument or additional evidence on the question whether the single integrated gas utility system operated by Argus Natural Gas Company, rather than that operated by Peoples Natural Gas Company, shall serve as its principal system.

3. Illinois Traction Company may petition for opportunity to present further argument or additional evidence on the question whether any single integrated public utility system controlled or operated by any of its subsidiary companies, other than the major integrated electric utility system operated by Illinois Iowa Power Company, referred to in our Findings and Opinion herein this day issued, shall serve as its principal system.

4. Illinois Iowa Power Company may petition for opportunity to present further argument or additional evidence on the question whether any single integrated public utility system operated by it or any of its subsidiaries other than the major integrated electric utility system referred to in our Findings and Opinion herein this day issued, shall serve as its principal system.

Provided, however, that the Commission reserves the right to grant, deny or dispose of any such petition according to the merits of the grounds urged in support thereof.

Issue having arisen in this proceeding as to the permissibility of retention of (a) the gas businesses conducted by Union Electric Company of Illinois, Iowa Union Electric Company, and St. Louis County Gas Company, in addition to the integrated electric utility system operated by Union Electric Company of Missouri and its subsidiaries; (b) the gas businesses conducted by Illinois Iowa Power Company, Kewanee Public Service Company, and Cahokia Manufacturers Gas Company, in addition to the electric operations of Illinois Iowa Power Company and Kewanee Public Service Company; (c) the gas operations of Des Moines Electric Light Company and Iowa Power and Light Company, in addition to the electric operations of said companies; and (d) the securities of Cairo City Gas Company, Champaign and Urbana Gas Light and Coke Company, Danville Gas Light Company, Decatur Electric Company, The Jacksonville Gas Light & Coke Company, Jacksonville Railway and Light Company, and Venice Gas Company in the holding company systems of Illinois Traction Company and Illinois Iowa Power Company; and

The Commission deeming it necessary and appropriate that the record be reopened and that additional opportunity be afforded for the presentation of further relevant evidence bearing on such questions;

It is ordered that, at such hour and place, and before such trial examiner and in such manner as the Commission shall by further notice and order designate, additional opportunity shall be afforded for the presentation of further relevant evidence bearing upon the question whether the gas businesses and securities referred to may be retained under clauses (A), (B), and (C) of Section 11 (b)(1) of the Act as systems additional to the integrated electric utility systems of Union Electric Company of Missouri and its subsidiaries; Illinois Iowa Power Company and Kewanee Public Service Company; and Des Moines Electric Light Company and Iowa Power and Light Company, respectively.

Counsel for The North American Company having moved for a dismissal of this proceeding as to certain

of its subsidiaries, named in our Order of March 8, 1940, commencing this proceeding, on the ground that they have been dissolved, or that The North American Company no longer has any interest in them, no objection having been made to this motion, and the Commission being of the opinion that the motion should be granted;

IT IS FURTHER ORDERED that this proceeding be, and the same hereby is, dismissed as to the following named respondents:

Washington and Glen Echo Railroad Company
St. Louis and East St. Louis Electric Railway Company
Wired Radio, Inc.
Wired Rediffusion Developments, Ltd.
St. Charles Electric Light and Power Company
Lakeside Light and Power Company
Wisconsin General Railway Company
Bloomington and Normal Railway, Electric and Heating Company
Decatur Light, Heat and Power Company
Elkhart Electric Light Company
Chicago and Electric Valley Railroad Company.

IT IS PROVIDED, with respect to our Findings, Opinion and Order herein, in their entirety, and with respect to the entry, publication, and service thereof, that they shall be without prejudice to the right of the Commission to enter such other and further appropriate orders from time to time as the Commission may deem necessary to secure compliance by the respondents with the provisions of the Act and the pertinent rules and regulations thereunder in carrying out the provisions of this Order; and

IT IS FURTHER PROVIDED that jurisdiction is reserved to the Commission, notwithstanding this Order, or its entry, publication, and service, to conduct such investigations, hearings, or other proceedings involving any or all of the respondents herein and to make such orders as it shall deem

necessary or appropriate under Section 11 (b)(2) or any other provision of the Public Utility Holding Company Act of 1935.

By the Commission.

FRANCIS P. BRASSOR,
Secretary.

(Seal)

IN THE

United States Circuit Court of Appeals

FOR THE SECOND CIRCUIT.

THE NORTH AMERICAN COMPANY,
Petitioner,

against

SECURITIES AND EXCHANGE COMMISSION,
Respondent.

PETITION TO REVIEW ORDER OF SECURITIES AND EXCHANGE COMMISSION DATED JUNE 25, 1942

SULLIVAN & CROMWELL,
Attorneys for Petitioner,
48 Wall Street,
New York, N. Y.

IN THE

United States Circuit Court of Appeals

FOR THE SECOND CIRCUIT.

THE NORTH AMERICAN COMPANY,
Petitioner,

against

SECURITIES AND EXCHANGE COMMISSION,
Respondent.

PETITION.

To the Honorable the United States Circuit Court of Appeals for the Second Circuit:

The petition of The North American Company respectfully shows:

1. Petitioner is a corporation organized and existing under the laws of the State of New Jersey, engaged in the business of holding securities for investment, and having its principal place of business in the City of New York, in the Second Judicial Circuit of the United States.

2. The Securities and Exchange Commission (hereinafter called the "Commission") was established under Section 4, Title I, of the Securities Exchange Act of 1934 and is charged with the administration of the Public Utility Holding Company Act of 1935 (hereinafter called the "Act").

3. Petitioner seeks review of an order of the Commission dated June 25, 1942, entered in a proceeding initiated by a notice and order for hearing dated March 8, 1940, directed by the Commission against petitioner and various of its

subsidiaries under Section 11(b)(1) of the Act. A copy of the order of the Commission dated June 25, 1942 is annexed hereto.

4. Reference is made to the petition for review of this petitioner previously filed with this Court on June 12, 1942 seeking review of another order of the Commission dated April 14, 1942 in the same proceeding, which petition states the circumstances and facts leading up to the order of April 14, 1942. The said order of April 14, 1942 provided that within fifteen days from the date thereof petitioner could file with the Commission a petition for leave to present further argument and proffer additional evidence with respect to the question of whether any integrated public utility system other than the Union Electric system designated in the Commission's findings and opinion should serve as petitioner's principal system. On April 29, 1942 a petition was filed by the petitioner pursuant to the provision of the order of April 14, 1942, referred to above, with the Commission and was denied by the order of the Commission of June 25, 1942 of which review is hereby sought. No hearing was held, no evidence taken or argument had in connection with the entry of the said order of June 25, 1942.

5. The jurisdiction of this Court is invoked under Section 24 of the Act which provides that any person aggrieved by an order issued by the Commission under the Act may obtain a review of such order in the Circuit Court of Appeals of the United States within any Circuit wherein such person has its principal place of business.

6. The order to be reviewed hereunder is invalid and void and should be set aside in its entirety for the reason that Section 11(b)(1) of the Act does not empower the Commission to enter an order designating a particular single integrated public-utility system for the petitioner, or compelling an election by the petitioner of a particular single integrated public-utility system prior to the expiration of the period within which the Commission's order of April 14,

1942 must be complied with; and for the further reason that if Section 11(b)(1) of the Act is construed to authorize such an order by the Commission it is unconstitutional for the reasons, among others, that it constitutes an improper delegation of legislative power, that it deprives petitioner and its securityholders of their property without due process of law, that it exceeds the power of Congress to regulate interstate commerce and imposes arbitrary and unconstitutional restrictions upon such commerce and is not a valid exercise of any power conferred by the Constitution upon Congress.

7. Petitioner is aggrieved by said order, herein sought to be reviewed, because by reason thereof, disregarding the invalidity of the order of April 14, 1942, it is deprived of its right to select, prior to the expiration of the period within which the Commission's order of April 14, 1942 must be complied with, the single integrated public-utility system which it chooses to retain and is compelled to accept as its principal system that system designated by the Commission in its order of April 14, 1942.

8. No previous application for the relief sought in this petition has been made to any other court or judge.

WHEREFORE, your petitioner respectfully prays that this Honorable Court review the order dated June 25, 1942, issued by the Commission against your petitioner, set said order aside in its entirety and grant such other and further relief as to the Court may seem just and equitable.

THE NORTH AMERICAN COMPANY

By HERBERT C. FREEMAN
Vice-President.

SULLIVAN & CROMWELL,
Attorneys for Petitioner,
48 Wall Street,
New York, N. Y.

STATE OF NEW YORK, }
COUNTY OF NEW YORK, } ss.:

HERBERT C. FREEMAN, being duly sworn, deposes and says that he is Vice-President of THE NORTH AMERICAN COMPANY and that he has read the above petition by him subscribed and knows the contents thereof, and that the same is true of his own knowledge, except as to matters stated therein to be on information and belief, and as to those matters he believes it to be true.

HERBERT C. FREEMAN

Sworn to before me this
21st day of August, 1942.

ARTHUR MAYER
Notary Public, Nassau Co. No. 1903
New York Co. Clerk's No. 533
New York Co. Register's No. 3M-342
Term Expires March 30, 1943

[SEAL]

UNITED STATES OF AMERICA

BEFORE THE

SECURITIES AND EXCHANGE COMMISSION

At a regular session of the Securities and Exchange Commission, held at its office in the City of Philadelphia, Pa., on the 25th day of June, A. D., 1942.

IN THE MATTER *of* THE NORTH AMERICAN COMPANY **and** ITS SUBSIDIARY COMPANIES Respondents File No. 59-10 Public Utility Holding Company Act of 1935—Section 11(b)(1)	Order Disposing of Petitions for Rehearing and Reargument

The Commission having on April 14, 1942, adopted its findings, opinion and order in proceedings pending pursuant to Section 11(b)(1) of the Public Utility Holding Company Act of 1935 in the matter of The North American Company and Its Subsidiary Companies, Respondents, which, among other things, designated the respective single or principal integrated public utility systems of the several holding companies in the holding company system of The North American Company; and

The said order having afforded an opportunity, notwithstanding the provisions of Rule XII(d) of the Commission's Rules of Practice, to The North American Company to request within fifteen days further argument or the presentation of additional evidence on the question whether any single integrated public utility system other than the integrated electric utility system of the Union group, denoting thereby the electric utility properties of Union Electric Company of Missouri and its subsidiaries, shall serve as the

"principal" system of The North American Company; and having, notwithstanding the said Rule of Practice, afforded to Illinois Iowa Power Company the opportunity to request within fifteen days further argument or the presentation of additional evidence on the question whether any single integrated public utility system operated by it or any of its subsidiaries, other than the major integrated electric utility system referred to in the said findings and opinion, shall serve as its principal system; and having, notwithstanding the said Rule of Practice, afforded to Northern Natural Gas Company the opportunity to request within fifteen days further argument or the presentation of additional evidence on the question whether the integrated public utility system of Argus Natural Gas Company, Inc., rather than that operated by Peoples Natural Gas Company, shall serve as its principal system; and

The North American Company and Illinois Iowa Power Company, having on April 28, 1942, petitioned for leave to present further argument and additional evidence upon certain matters; Northern Natural Gas Company, having on May 8, 1942, petitioned for leave to reopen the proceedings with respect to it and its subsidiaries, which petition was amended on May 27, 1942; the Commission having considered the petitions and being fully advised in the premises, and having this day issued its opinion with respect to the issues raised by said petitions;

IT IS ORDERED, for the reasons set forth in the said opinion, that the said petitions be, and the same hereby are, denied, except insofar as hereinafter set forth:

The petition of Illinois Iowa Power Company having indicated the existence of evidence respecting the retainability of certain oil drilling facilities owned by the company, which evidence was not before the Commission in the course of the original proceedings herein, and the Commission in its discretion deeming it advisable to afford to Illinois Iowa Power Company an opportunity to present such evidence for inclusion in the record herein; and

The petition of Northern Natural Gas Company having indicated the existence of evidence respecting the retainability of certain pipe line facilities owned by its subsidiary, Argus Natural Gas Company, Inc., which evidence was not before the Commission in the course of the original proceedings herein, and the Commission in its discretion deeming

it advisable to afford to Northern Natural Gas Company an opportunity to present such further evidence for inclusion in the record herein;

IT IS FURTHER ORDERED that the record be reopened and a hearing convened at a date to be set by further order of the Commission for the limited purpose of receiving such evidence as Illinois Iowa Power Company and Northern Natural Gas Company may proffer with respect to the retention and operation of said oil and pipe line facilities, respectively, and the evidence to be introduced shall be limited to those issues, as more fully set forth in the said opinion.

By the Commission.

ORVAL L. DUBOIS,
Secretary.

[SEAL]

United States Circuit Court of Appeals

FOR THE SECOND CIRCUIT

October Term, No. ——

THE NORTH AMERICAN COMPANY,

Petitioner,

v.

SECURITIES AND EXCHANGE COMMISSION,

Respondent.

TRANSCRIPT OF RECORD

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United States Circuit Court of Appeals

FOR THE SECOND CIRCUIT

October Term, No. ——

THE NORTH AMERICAN COMPANY,
Petitioner,

v.

SECURITIES AND EXCHANGE COMMISSION,
Respondent.

TRANSCRIPT OF RECORD

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UNITED STATES OF AMERICA

BEFORE THE

Securities and Exchange Commission

AT A REGULAR SESSION OF THE SECURITIES AND EXCHANGE COMMISSION, HELD AT ITS OFFICES IN THE CITY OF WASHINGTON, D. C., ON THE 8TH DAY OF MARCH, A. D., 1940.

File Number 59-10

IN THE MATTER

of

THE NORTH AMERICAN COMPANY

and its

SUBSIDIARY COMPANIES

Respondents

NOTICE OF AND ORDER FOR HEARING PURSUANT TO SECTION 11 (b) (1) OF THE PUBLIC UTILITY HOLDING COMPANY ACT OF 1935

The Commission having examined, pursuant to Sections 11 (a), 18 (a) and 18 (b) of the Public Utility Holding Company Act of 1935, the corporate structure of The North American Company, a registered holding company, and its subsidiary companies, the relationship among the companies in the holding company system of said The North American Company, the character of the interests thereof and the properties owned or controlled thereby, and it appearing to the Commission from such examination that:

4 *Notice of and Order for Hearing*

I.

1. The North American Company, a registered holding company, is a corporation organized under the laws of New Jersey. It maintains its principal offices for the doing of business in the City of New York, State of New York. The following are subsidiary companies of The North American Company and are also registered holding companies within the meaning of the Public Utility Holding Company Act of 1935 (hereinafter sometimes referred to as the Act).

5

Name	*State of Organization*
Washington Railway and Electric Company	Act of Congress
The Washington and Rockville Railway Company of Montgomery County	Maryland
North American Light & Power Company	Delaware
Illinois Traction Company	Maine
Illinois Iowa Power Company	Illinois
Union Electric Company of Missouri	Missouri
Des Moines Electric Light Company	Maine
Northern Natural Gas Company	Delaware

2. The following are subsidiary companies of The North American Company or of The North American Company and one or more of the companies named in paragraph 1 above and are public utility companies within the meaning of the Act:

6

Name	*State of Organization*	*Nature of Business*
Union Electric Company of Missouri	Missouri	Electric Heating Holding Company
Union Electric Company of Illinois	Illinois	Electric, Gas
Mississippi River Power Company	Maine	Electric
Iowa Union Electric Company	Illinois	Electric, Gas

Name	*State of Organization*	*Nature of Business*
Cupples Station Light, Heat & Power Company	Missouri	Electric, Heating
St. Charles Electric Light & Power Company	Missouri	Electric
Lakeside Light and Power Company	Missouri	Electric
Wisconsin Electric Power Company	Wisconsin	Electric, Heating
Wisconsin Gas & Electric Company	Wisconsin	Electric, Gas, Heating, Transportation
Wisconsin Michigan Power Company	Wisconsin	Electric, Gas, Transportation 8
The Cleveland Electric Illuminating Company	Ohio	Electric, Heating
Potomac Electric Power Company	D. C.	Electric
Braddock Light & Power Company, Incorporated	Virginia	Electric
The Kansas Power and Light Company	Kansas	Electric, Gas, Heating, Ice, Water, Transportation
Missouri Power & Light Company	Missouri	Electric, Gas, Heating, Ice, Water
The Blue River Power Company	Delaware	Electric 9
Nebraska Natural Gas Company	Nebraska	Gas
Kewanee Public Service Company	Illinois	Electric, Gas
Illinois Iowa Power Company	Illinois	Electric, Gas, Heating, Water, Ice, Transportation and Holding Co.
Des Moines Electric Light Company	Maine	Electric, Gas, Heating, Holding Co.
Iowa Power and Light Company	Iowa	Electric, Gas
The St. Louis County Gas Company	Missouri	Gas
Peoples Natural Gas Company	Delaware	Gas
Argus Natural Gas Company, Inc.	Kansas	Gas

10 *Notice of and Order for Hearing*

3. The following are subsidiary companies of The North American Company or of The North American Company and one or more of the companies named in paragraph 1 above, and are not public utility companies within the meaning of the Act, but are engaged in the businesses respectively set forth opposite their names.

	Name	*State of Organization*	*Nature of Business*
11	Union Electric Land and Development Company	Missouri	Land
	St. Louis & Belleville Electric Rwy. Company	Illinois	Transportation
	St. Louis & Alton Railway Company	Illinois	Transportation
	Wisconsin General Railway Company	Wisconsin	Land
	The Milwaukee Electric Railway & Transport Company	Wisconsin	Transportation
	Motor Transport Company	Wisconsin	Transportation
	Badger Auto Service Company	Wisconsin	Auto Service
	Milwaukee Light, Heat & Traction Co.	Wisconsin	Land
12	Hevi-Duty Electric Company	Wisconsin	Furnace Construction
	The Power & Light Building Company	Ohio	Real Estate
	The Ceico Company	Ohio	Metering, Land
	Great Falls Power Company	Virginia	Land
	Capital Transit Company	D. C.	Transportation
	Northern Natural Gas Company	Delaware	Gas Pipe Line
	Montgomery Bus Lines, Incorporated	Maryland	Transportation
	The Glen Echo Park Company	Maryland	Amusement
	The McPherson Oil & Gas Development Company	Kansas	Gas Production
	Power & Light Securities Company	Delaware	Investments

Name	*State of Organization*	*Nature of Business*
Cahokia Manufacturers Gas Company	Illinois	Gas, wholesale
Western Illinois Ice Company	Illinois	Ice
Illinois Terminal Railroad Company	Illinois	Railroad
Central Terminal Company	Missouri	Warehousing
West Kentucky Coal Company	New Jersey	Coal Mining
West Kentucky Coal Company	Delaware	Coal Sales
Peoples Coal Company	Nebraska	Coal Sales
St. Bernard Coal Company	New Jersey	Coal Sales
60 Broadway Building Corporation	New York	Real Estate
North American Utilities Securities Corporation	Maryland	Investments
Wired Radio Inc.	Delaware	Radio development
Wired Rediffusion Developments, Ltd.	England	Radio development

4. The following is a subsidiary company in the holding company system of The North American Company and sells goods to associate companies. It is engaged in the business set forth opposite its name:

Name	*State of Organization*	*Nature of Business*
Union Colliery Company	Missouri	Coal

5. The following are subsidiary companies of The North American Company and of one or more of the companies named in paragraphs 1, 2, and 3 above, and are inactive or in the process of dissolution:

Name	*State of Organization*
East St. Louis & Suburban Railway Company	Illinois
East St. Louis Railway Company	Illinois

Name	*State of Organization*
St. Louis and East St. Louis Electric Railway Company	Delaware
The Washington and Glen Echo Railroad Company	Maryland
North American Oil and Gas Company	Delaware
Bloomington & Normal Railway, Electric & Heating Co	Illinois
The Brighton Electric Light and Power Company	Illinois
Cairo City Gas Company	Illinois
17 Champaign and Urbana Gas Light and Coke Company	Illinois
Chicago and Illinois Valley Railroad Company	Illinois
Danville Gas Light Company	Illinois
Decatur Electric Company	Illinois
The Decatur Light, Heat and Power Company	Illinois
Elkhart Electric Light Co.	Illinois
The Jacksonville Gas Light & Coke Company	Illinois
Jacksonville Railway and Light Company	Maine
St. Louis Electric Terminal Railway Company	Missouri
Venice Gas Company	Illinois

18 6. Ten per centum (10%) or more of the outstanding voting securities of the following companies are directly or indirectly owned, controlled, and held with power to vote by The North American Company (or by a company that is a subsidiary company of said holding company); such companies, however, have filed applications for exemption under Section 2(a)(8) of the Act, and such applications are pending and undetermined:

Name	*State of Organization*	*Nature of Business*
The Detroit Edison Company	New York	Electric
Pacific Gas and Electric Company	California	Electric
Fox River Navigation Company	Wisconsin	Transportation

The following are active subsidiary companies of one or more of the companies named above in this paragraph:

Name	*State of Organization*
Huron Farms Company	Michigan
The Edison Illuminating Company of Detroit	Michigan
The Wayne Mining Company	Michigan
Valley Electric Supply Company	California
Arlington Properties Company, Ltd.	California
Western Canal Company	California
Vallejo Electric Light and Power Company	California

The following are inactive subsidiary companies of one or more of the companies named above in this paragraph:

Name	*State of Organization*
Essex County Light and Power Company, Limited	Canada
The Peninsular Electric Light Company	Michigan
St. Clair Edison Company	Michigan
The Washtenaw Light and Power Company	Michigan
San Joaquin Light and Power Corporation	California
Midland Counties Public Service Corporation	California
Standard Pacific Gas Line, Incorporated	Delaware

7. As of December 31, 1938 the holding company system of The North American Company served with electricity, communities having an aggregate population of 6,202,000 located in the States of:

Illinois	Iowa	Kansas
Michigan	Missouri	Maryland
Ohio	Virginia	Wisconsin

and in the District of Columbia. The electric service areas of said holding company system are shown on the annexed

map marked Exhibit "1" which is made a part hereof as if set out herein in full.

As of December 31, 1938 said holding company system served with gas communities having an aggregate population of 1,332,000 located in the States of

Iowa	Illinois	Kansas
Missouri	Nebraska	Wisconsin
Minnesota		

The gas service areas of said holding company system are
23 shown on the annexed map marked Exhibit "2" and made a part hereof as if set out herein in full.

Said holding company system, through the medium of its various subsidiaries is also engaged in various other businesses as set forth elsewhere herein.

The location of the operations of the public utility subsidiary companies named in paragraph 2 of Section 1 above and the respective mileage distances from the principal offices for the doing of business of The North American Company are shown on the annexed chart, marked Exhibit "3" which is made a part hereof as if set out herein in full.
24

II

8. Union Electric Company of Missouri, referred to in paragraph 2 above, a subsidiary of The North American Company, owns and operates in the State of Missouri, facilities used for the generation, transmission and distribution of electric energy for sale and is an electric utility company as defined in the Act. It also owns and operates in said state, facilities used for the production of steam and for its distribution for heating purposes. Union Electric Company

of Missouri is a public utility holding company within the meaning of the Act, and is registered as such.

9. Union Electric Company of Illinois, referred to in paragraph 2 above, a subsidiary of The North American Company and of Union Electric Company of Missouri, owns and operates in the State of Illinois facilities used for the generation, transmission and distribution of electric energy for sale, and is an electric utility company as defined in the Act. It also owns and operates in said State facilities used for the production and distribution of manufactured gas for sale at retail and is a gas utility company as defined in the Act.

10. Mississippi River Power Company, referred to in paragraph 2 above, a subsidiary of The North American Company and of Union Electric Company of Missouri, owns and operates in the States of Illinois and Iowa, facilities used for the generation and transmission of electric energy for sale and is an electric utility company as defined in the Act.

11. Iowa Union Electric Company, referred to in paragraph 2 above, a subsidiary of The North American Company and of Union Electric Company of Missouri, owns and operates in the States of Illinois and Iowa, facilities used for the generation, transmission and distribution of electric energy for sale, and is an electric utility company as defined in the Act. It also owns and operates, in the State of Iowa, facilities used for the production and distribution of manufactured gas for sale at retail, and is a gas utility company as defined in the Act.

12. Cupples Station Light, Heat and Power Company, referred to in paragraph 2 above, a subsidiary of The North American Company and of Union Electric Company of Missouri, owns and operates in the State of Missouri, facilities used for the generation and distribution of electric energy for sale, and is an electric utility company as defined in the Act. It also owns and operates in said State facilities used for the supplying of steam heating service.

13. St. Charles Electric Light and Power Company, re-
29 ferred to in paragraph 2 above, a subsidiary of The North American Company and of Union Electric Company of Missouri, owns and operates in the State of Missouri, facilities used for the distribution of electric energy for sale, and is an electric utility company as defined in the Act.

14. Lakeside Light and Power Company, referred to in paragraph 2 above, a subsidiary of The North American Company and of Union Electric Company of Missouri, owns and operates in the State of Missouri, facilities used for the ditsribution of electric energy for sale, and is an electric
30 utility company as defined in the Act.

15. Wisconsin Electric Power Company, referred to in paragraph 2 above, a subsidiary of The North American Company, owns and operates in the State of Wisconsin, facilities used for the generation, transmission and distribution of electric energy for sale, and is an electric utility company as defined in the Act. It also owns and operates facilities in said State used for the production of steam and for its distribution for heating purposes.

16. Wisconsin Gas & Electric Company, referred to in paragraph 2 above, a subsidiary of The North American

Company, owns and operates in the State of Wisconsin, facilities used for the generation, transmission and distribution of electric energy for sale, and is an electric utility company as defined in the Act. It also owns and operates in said state, facilities used for the production, transmission and distribution of manufactured gas for sale at retail, and is a gas utility company as defined in the Act. Said company also owns and operates in said State facilities used for the production of steam and for its distribution for heating purposes, and facilities used for supplying the transportation service.

17. Wisconsin Michigan Power Company, referred to in paragraph 2 above, a subsidiary of The North American Company, owns and operates in the States of Wisconsin and Michigan facilities used for the generation, transmission and distribution of electric energy for sale, and is an electric utility company as defined in the Act. It also owns and operates in the State of Wisconsin facilities used for the production and distribution of manufactured gas for sale at retail, and is a gas utility company as defined in the Act. Said Company also owns and operates in said State facilities used for providing transportation service.

18. The Cleveland and Electric Illuminating Company, referred to in paragraph 2 above, a subsidiary of The North American Company, owns and operates in the State of Ohio, facilities used for the generation, transmission and distribution of electric energy for sale, and is an electric utility company as defined in the Act. It also owns and operates in said State faciliities used for the production of steam and for its distribution for heating purposes.

19. Potomac Electric Power Company, referred to in paragraph 2 above, a subsidiary of The North American Company and of Washington Railway and Electric Company, owns and operates in the District of Columbia and in the State of Maryland, facilities used for the generation, transmission and distribution of electric energy for sale, and is an electric utility company as defined in the Act.

20. Braddock Light & Power Company, Incorporated, referred to in paragraph 2 above, a subsidiary of The North American Company and of Washington Railway and Electric Company and of The Washington and Rockville Railway Company of Montgomery County, owns and operates in the Commonwealth of Virginia, facilities used for the distribution of electric energy for sale and is an electric utility company as defined in the Act.

21. The Kansas Power and Light Company, referred to in paragraph 2 above, a subsidiary of The North American Company and of North American Light & Power Company, owns and operates in the State of Kansas, facilities used for the generation, transmission and distribution of electric energy for sale and is an electric utility company as defined in the Act. It also owns and operates in said State facilities used for the transmission and distribution of natural gas for sale at retail and is a gas utility company as defined in the Act. Said company also owns and operates in said State facilities used for providing steam heat, water, ice and transportation service.

22. Missouri Power & Light Company, referred to in paragraph 2 above, a subsidiary of The North American Company and of North American Light & Power Company,

owns and operates in the State of Missouri, facilities used for the generation, transmission and distribution of electric energy for sale, and is an electric utility company as defined in the Act. It also owns and operates in said State facilities used for the transmission and distribution of natural gas for sale at retail, and is a gas utility company as defined in the Act. Said Company also owns and operates in said State facilities used for providing heat, water and ice and transportation service.

23. The Blue River Power Company, referred to in paragraph 2 above, a subsidiary of The North American Company and of North American Light & Power Company, owns and operates in the State of Kansas, facilities used for the generation of electric energy for sale, and is an electric utility company as defined in the Act.

24. Nebraska Natural Gas Company, referred to in paragraph 2 above, a subsidiary of The North American Company and of North American Light & Power Company, owns and operates in the State of Nebraska, facilities used for the transmission and distribution of natural gas for sale at retail, and is a gas utility company as defined in the Act.

25. Kewanee Public Service Company, referred to in paragraph 2 above, a subsidiary of The North American Company and of North American Light & Power Company and of Illinois Traction Company, owns and operates in the State of Illinois, facilities used for the generation, transmission and distribution of electric energy for sale and is an electric utility company as defined in the Act. It also owns and operates in said State, facilities used for the production and distribution of manufactured gas for sale at retail and is a gas utility company as defined in the Act.

40

26. Illinois Iowa Power Company, referred to in paragraph 2 above, a subsidiary of The North American Company and of North American Light & Power Company and of Illinois Traction Company, owns and operates in the State of Illinois, facilities used for the generation, transmission and distribution of electric energy for sale and is an electric utility company as defined in the Act. It also owns and operates in said State facilities used for the production and distribution of manufactured gas for sale at retail and is a gas utility company as defined in the Act. Said Company
41 also owns and operates in said State facilities used for providing heating, water, ice and transportation service. Said Company is a public utility holding company within the meaning of the Act, and is registered as such.

27. Des Moines Electric Light Company, referred to in paragraph 2 above, a subsidiary of The North American Company and of North American Light & Power Company and of Illinois Traction Company and of Illinois Iowa Power Company, owns and operates in the State of Iowa, facilities used for the generation, transmission and distribution of
42 electric energy for sale, and is an electric utility company as defined in the Act. It also owns and operates in said State facilities used for the production and distribution of manufactured gas for sale at retail, and is a gas utility company as defined in the Act. Said Company also owns and operates in said State facilities used for the production of steam and for its distribution for heating purposes. Said Company is a public utility holding company within the meaning of the Act.

28. Iowa Power and Light Company, referred to in paragraph 2 above, a subsidiary of The North American Com-

pany and of North American Light & Power Company and of Illinois Traction Company and of Illinois Iowa Power Company and of Des Moines Electric Light Company owns and operates in the State of Iowa, facilities used for the generation, transmission and distribution of electric energy for sale, and is an electric utility company as defined in the Act. Said Company also owns and operates in said State, facilities used for the production and distribution of manufactured gas and distribution of natural gas for sale at retail and is a gas utility company as defined in the Act.

29. The St. Louis County Gas Company, referred to in paragraph 2 above, a subsidiary of The North American Company, owns and operates in the State of Missouri, facilities used for the production and distribution of manufactured gas and for the distribution of mixed gas for sale at retail and is a gas utility company as defined in the Act.

30. Peoples Natural Gas Company, referred to in paragraph 2 above, a subsidiary of The North American Company and of North American Light & Power Company and of Northern Natural Gas Company, owns and operates in the States of Nebraska, Iowa and Minnesota, facilities used for the transmission and distribution of natural gas for sale at retail and is a gas utility company as defined in the Act.

31. Argus Natural Gas Company, Inc., referred to in paragraph 2 above, a subsidiary of The North American Company and of North American Light & Power Company and of Northern Natural Gas Company, owns and operates in the State of Kansas, facilities used for the transmission and distribution of natural gas for sale at retail, and is a gas utility company as defined in the Act.

III

32. Northern Natural Gas Company, referred to in paragraph 3 above, a subsidiary of The North American Company and of North American Light & Power Company owns and operates in the States of Texas, Oklahoma, Kansas, Nebraska, Iowa, Minnesota, and South Dakota, facilities used for the production and transmission of natural gas. It is a public utility holding company within the meaning of the Act, and is registered as such.

33. Union Electric Land and Development Company, referred to in paragraph 3 above, a subsidiary of The North American Company and of Union Electric Company of Missouri, own real estate in the State of Missouri.

34. St. Louis and Bellevilie Electric Railway Company, referred to in paragraph 3 above, a subsidiary of The North American Company and of Union Electric Company of Missouri, owns and operates in the State of Illinois, facilities used for providing freight transportation service.

35. St. Louis and Alton Railway Company, referred to in paragraph 3 above, a subsidiary of The North American Company and of Union Electric Company of Missouri, owns in the State of Illinois, certain railway properties, leased for operation to Illinois Terminal Railroad Company.

36. Wisconsin General Railway Company, referred to in paragraph 3 above, a subsidiary of The North American Company and of Wisconsin Electric Power Company, owns real estate in the State of Wisconsin.

37. The Milwaukee Electric Railway and Transport Company, referred to in paragraph 3 above, a subsidiary of The North American Company and of Wisconsin Electric Power Company, owns and operates in the State of Wisconsin, facilities used for the providing of transportation service.

38. Motor Transport Company, referred to in paragraph 3 above, a subsidiary of The North American Company and of Wisconsin Electric Power Company, and of The Milwaukee Electric Railway & Transport Company, owns and operates in the State of Wisconsin, facilities used for providing freight transportation service.

39. Badger Auto Service Company, referred to in paragraph 3 above, a subsidiary of The North American Company and of Wisconsin Electric Power Company and of The Milwaukee Electric Railway & Transport Company, owns and operates parking lots and gasoline filling stations in the State of Wisconsin.

40. Milwaukee Light, Heat and Traction Company, referred to in paragraph 3 above, a subsidiary of The North American Company, is the owner of lands in the State of Wisconsin.

41. Hevi-Duty Electric Company, referred to in paragraph 3 above, a subsidiary of The North American Company and of Milwaukee Light, Heat and Traction Company, is engaged in the design and construction of electric furnaces.

42. The Power & Light Building Company, referred to in paragraph 3 above, a subsidiary of The North American Company and of The Cleveland Electric Illuminating Company, is a real estate company, operating in the State of Ohio.

52

43. The Ceico Company, referred to in paragraph 3 above, a subsidiary of The North American Company and of The Cleveland Electric Illuminating Company, is a land company and is also engaged in business as a metering company.

44. Great Falls Power Company, referred to in paragraph 3 above, a subsidiary of The North American Company and of Washington Railway and Electric Company, owns land and an undeveloped water power site in the State of Virginia.

53

45. Capital Transit Company, referred to in paragraph 3 above, a subsidiary of The North American Company and of Washington Railway and Electric Company, owns and operates in the District of Columbia and in the State of Maryland, facilities used for providing transportation service.

46. Montgomery Bus Lines, Incorporated, referred to in paragraph 3 above, a subsidiary of The North American Company and of Washington Railway and Electric Company and of Capital Transit Company owns and operates in the State

54 of Maryland, facilities used for providing transportation service.

47. The Glen Echo Park Company, referred to in paragraph 3 above, a subsidiary of The North American Company and of Washington Railway and Electric Company, and of Capital Transit Company, owns and operates an amusement park in the state of Maryland.

48. The McPherson Oil and Gas Development Company, referred to in paragraph 3 above, a subsidiary of The North American Company and of North American Light & Power

Company, owns and operates in the State of Kansas facilities used for the production of natural gas.

49. Power & Light Securities Company, referred to in paragraph 3 above, a subsidiary of The North American Company and of North American Light & Power Company, is an investment company, having its principal office for the doing of business in the City of Wilmington, State of Delaware.

50. Cahokia Manufacturers Gas Company, referred to in paragraph 3 above, a subsidiary of The North American Company and of North American Light & Power Company and of Illinois Traction Company, owns and operates in the State of Illinois, facilities used for the production of manufactured gas for sale at wholesale.

51. Western Illinois Ice Company, referred to in paragraph 3 above, a subsidiary of The North American Company and of North American Light & Power Company and of Illinois Traction Company, owns and operates in the State of Illinois facilities used for the manufacture and distribution of ice.

52. Illinois Terminal Railroad Company, referred to in paragraph 3 above, a subsidiary of The North American Company and of North American Light & Power Company and of Illinois Traction Company, and of Illinois Iowa Power Company, owns, leases and operates in the States of Missouri and Illinois facilities used for providing freight transportation service.

53. Central Terminal Company, referred to in paragraph 3 above, a subsidiary of The North American Company and of North American Light & Power Company, and of Illinois

Traction Company, and of Illinois Iowa Power Company, owns and operates warehouses in the State of Missouri.

54. West Kentucky Coal Company (New Jersey), referred to in paragraph 3 above, a subsidiary of The North American Company, owns and operates coal mining properties and mineral rights in the State of Kentucky.

55. West Kentucky Coal Company (Delaware), referred to in paragraph 3 above, a subsidiary of The North American Company and of West Kentucky Coal Company (New Jersey) is a coal sales company.

56. Peoples Coal Company, referred to in paragraph 3 above, a subsidiary of The North American Company and of West Kentucky Coal Company (New Jersey) and of West Kentucky Coal Company (Delaware) is a coal sales company.

57. St. Bernard Coal Company, referred to in paragraph 3 above, a subsidiary of The North American Company and of West Kentucky Coal Company (New Jersey) is a coal sales company.

58. 60 Broadway Building Corporation, referred to in paragraph 3 above, a subsidiary of The North American Company, owns and operates real estate in the City of New York, State of New York.

59. North American Utilities Securities Corporation, referred to in paragraph 3 above, a subsidiary of The North American Company, is an investment company with its principal offices in the City of New York, State of New York.

60. Wired Radio, Inc., referred to in paragraph 3 above, a subsidiary of The North American Company, is engaged in experimenting in and developing the art of generating and distributing high frequency current over electric light and power wires with particular attention to the transmission by this means of musical and other programs. 61

61. Wired Rediffusion Developments, Ltd., referred to in paragraph 3 above, a subsidiary of The North American Company and of Wired Radio, Inc., is engaged in experimenting in and developing the art of generating and distributing high frequency current over electric light and power wires with particular attention to the transmission by this means of musical and other programs. 62

IV

62. Union Colliery Company, referred to in paragraph 4 above, a subsidiary of The North American Company and of Union Electric Company of Missouri and of Union Electric Company of Illinois produces coal and sells to associated companies. 63

V

And it appearing further to the Commission from such examination that:

63. The holding company system of The North American Company is not confined in its operations to those of a single integrated public utility system within the meaning of the Act, and to such other businesses as are reasonably incidental, economically necessary or appropriate to the operations of such integrated public utility system.

64 *Notice of and Order for Hearing*

VI

WHEREFORE IT IS ORDERED that the said The North American Company and each of its subsidiary companies hereinbefore named, all of which are made respondents herein, file with the Secretary of the Commission on or before the 18th day of April, 1940, their joint or several answers admitting, denying, or otherwise explaining their respective positions as to each of the allegations of Parts I to V hereof inclusive. Any such answer may include a statement of the
65 claim of the respondents or any of them as to (a) the action, if any, which is necessary and should be required to be taken by any of the respondents (including the divestment of control, securities or other assets), to limit the operations of each of the registered holding companies hereinbefore named to a single integrated public-utility system and to such other businesses as are reasonably incidental, or economically necessary or appropriate to the operations of such integrated public-utility system; (b) the extent to which any of said respondents which is a registered holding company should be permitted to continue to control one or more additional in-
66 tegrated public-utility systems as may meet the requirements of Clauses (A), (B) and (C) of Section 11(b)(1) of the Act; and (c) the extent to which any of said respondents should be permitted to retain an interest in any business (other than the business of a public-utility company as such), as provided by Section 11(b)(1) of the Act. The answer of any respondent which is a registered holding company may, if such respondent so desires, state that such respondent proposes and is prepared to take such action as will cause it to cease to be a holding company within the meaning of the Act, together with a description of such action and the time within which it proposes to take such action; and

IT IS FURTHER ORDERED pursuant to Section 11(b)(1) of the said Public Utility Holding Company Act of 1935 that a hearing be held at the offices of the Securities and Exchange Commission, 1778 Pennsylvania Avenue, N. W., Washington, D. C., at 10 A. M. on the twentieth day after the date herein fixed for the filing of answers (or such later date as the Commission may prior thereto fix by supplementary notice), to determine (1) such issues, if any, as may arise from the allegations of Parts I to V hereof, inclusive, and the answer or answers filed thereto by the respondents herein or any of them as hereinbefore provided, and by any other party or parties hereto as hereinafter provided; (2) what action, if any, is necessary and shall be required to be taken by the respondents herein, or any of them, to limit the operations of the holding company systems of each of the registered holding companies hereinbefore named to a single integrated public-utility system, and to such other businesses as are reasonably incidental, or economically necessary or appropriate to the operations of such integrated public-utility system; (3) pursuant to such application as may be made herein, the extent to which each of the registered holding companies hereinbefore named shall be permitted to continue to control one or more additional integrated public-utility systems as provided by Section 11(b)(1) of the Act; and (4) pursuant to such application as may be made herein, the extent to which any of the respondents will be permitted to retain any interest in any business (other than that of a public-utility company as such) as provided by Section 11(b)(1) of the Act; and

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69

IT IS FURTHER ORDERED that the Secretary of the Commission shall serve notice of the hearing aforesaid by mailing a copy of this order by registered mail to said The North

American Company and to each of its subsidiary companies aforementioned, respondents herein, such mailing to be made not less than thirty days prior to the date hereinbefore fixed for the filing of answers; and that notice is hereby given of said hearing to the said respondents and to all other persons, including the security holders and consumers of the said respondents, all States, municipalities and political subdivisions of States within which are located any of the aforesaid utility assets or under the laws of which any of the respondents are incorporated, all State commissions, State securities commissions and all agencies, authorities or instrumentalities of one or more States, municipalities or other political subdivisions having jurisdiction over any of the respondents or over any of the businesses, affairs or operations of any of them, and that such notice shall be given further by general release of the Commission, distributed to the press and mailed to the mailing list for releases issued under the Public Utility Holding Company Act of 1935. Further notice shall be given to all persons by publication in the Federal Register, not later than thirty days prior to the date hereinbefore fixed for the filing of answers, of a notice as follows:

NOTICE OF HEARING UNDER SECTION 11 (b) (1) OF THE PUBLIC UTILITY HOLDINGS COMPANY ACT OF 1935 WITH RESPECT TO THE HOLDING-COMPANY SYSTEM OF THE NORTH AMERICAN COMPANY.

Notice is hereby given that the Securities and Exchange Commission adopted an order on the 8th day of March, 1940, directing that a hearing pursuant to Section 11 (b) (1) of the Public Utility Holding Company Act of 1935 be held with respect of The North American Com-

pany and each of its subsidiary companies hereinafter called the respondents at the offices of the said Securities and Exchange Commission, 1778 Pennsylvania Avenue, N. W., Washington, D. C., at 10 A. M. on the twentieth day after the date herein fixed for the filing of answers (or such later date as the Commission may prior thereto fix by supplementary notice).

Said order recites that it appears to the Commission that the holding company system of the said The North American Company is not confined in its operations to those of a single integrated public-utility system within 74 the meaning of the said Act, and to such other businesses as are reasonably incidental, or economically necessary or appropriate to the operations of such integrated public-utility system.

Said order provides that each respondent shall file its answer to the allegations of said order on or before the 18th day of April, 1940, and thereby shall admit, deny, or otherwise explain the position of such respondent with respect to the allegations set forth in Parts I to V of said notice and order for hearing, and also provides that such answer may include a statement of the claim of the re- 75 spondents or any of them as to (a) the action, if any, which is necessary and should be required to be taken by any of the respondents (including the divestment of control, securities or other assets), to limit the operations of each of the respondents as may be a registered holding company to a single integrated public-utility system and to such other businesses as are reasonably incidental, or economically necessary or appropriate to the operations of such integrated public-utility system; (b) the extent to which any of said respondents which is a registered holding company should be permitted to continue to control

76 one or more additional integrated public-utility systems as may meet the requirements of Clauses (A), (B) and (C) of Section 11 (b) (1) of the Act; and (c) the extent to which any of said respondents should be permitted to retain an interest in any business (other than the business of a public-utility company as such) as provided by Section 11 (b) (1) of the Act. The answer of any respondent which is a registered holding company may, if such respondent so desires, state that such respondent proposes and is prepared to take such action as will cause it to
77 cease to be a holding company within the meaning of the Act, together with a description of such action and the time within which it proposes to take such action; and

Said order further provides that the purpose of such hearing is to determine (1) such issues, if any, as may arise from the allegations of Parts I to V, inclusive, of said order, and the answer or answers filed thereto by the respondents or any of them as hereinbefore provided, and by any other party or parties hereto as hereinafter provided; (2) what action, if any, is necessary and shall
78 be required to be taken by the respondents in said proceeding, or any of them, to limit the operations of the holding company systems of each of the respondents as may be a registered holding company to a single integrated public-utility system, and to such other businesses as are reasonably incidental, or economically necessary or appropriate to the operations of such integrated public-utility system; (3) pursuant to such application as may be made in said proceedings, the extent to which each of the respondents as may be a registered holding company shall be permitted to continue to control one or more additional integrated public-utility systems as provided by Section 11 (b) (1) of the Act; and (4) pursuant

to such application as may be made in said proceedings, the extent to which any of the respondents will be permitted to retain any interest in any business (other than that of a public-utility company as such) as provided by Section 11 (b) (1) of the Act; and

Reference is made to said notice and order for hearing for a more complete statement of the various matters to be determined at said hearing, and a copy of said notice and order for hearing is on file and open to public inspection at the offices of said Securities and Exchange Commission 80 in Washington, D. C., and in each of the Regional Offices of said Securities and Exchange Commission, and a Copy of said notice and order for hearing may be had upon written request to the Secretary of said Commission, and said notice and order for hearing is hereby made a part of this notice as if more fully herein set forth at length.

Notice of the aforesaid hearing is particularly given to each of the aforesaid respondents, The North American Company, Washington Railway and Electric Company, The Washington and Rockville Railway Company of Montgomery County, North American Light & Power 81 Company, Illinois Traction Company, Illinois Iowa Power Company, Union Electric Company of Missouri, Des Moines Electric Light Company, Northern Natural Gas Company, Union Electric Company of Illinois, Mississippi River Power Company, Iowa Union Electric Company, Cupples Station Light Heat & Power Company, St. Charles Electric Light & Power Company, Lakeside Light and Power Company, Wisconsin Electric Power Company, Wisconsin Gas & Electric Company, Wisconsin Michigan Power Company, The Cleveland Electric Illuminating Company, Potomac Electric Power

Company, Braddock Light & Power Company, Incorporated, The Kansas Power and Light Company, Missouri Power & Light Company, The Blue River Power Company, Nebraska Natural Gas Company, Kewanee Public Service Company, Iowa Power and Light Company, The St. Louis County Gas Company, Union Electric Land & Development Company, St. Louis & Belleville Electric Rwy. Company, St. Louis & Alton Railway Company, Wisconsin General Railway Company, The Milwaukee Electric Railway & Transport Company, Motor Transport Company, Badger Auto Service Company, Milwaukee Light, Heat & Traction Co., Hevi-Duty Electric Company, The Power & Light Building Company, The Ceico Company, Greaf Falls Power Company, Capital Transit Company, Montgomery Bus Lines, Incorporated, The Glen Echo Park Company, The McPherson Oil & Gas Development Company, Power & Light Securities Company, Cahokia Manufacturers Gas Company, Western Illinois Ice Company, Illinois Terminal Railroad Company, Central Terminal Company, West Kentucky Coal Company (New Jersey), West Kentucky Coal Company (Delaware), Peoples Coal Company, St. Bernard Coal Company, 60 Broadway Building Corporation, North American Utilities Securities Corporation, Wired Radio, Inc., Wired Rediffusion Developments, Ltd., Union Colliery Company, East St. Louis & Suburban Railway Company, East St. Louis Railway Company, St. Louis and East St. Louis Electric Railway Company, The Washington and Glen Echo Railroad Company, North American Oil and Gas Company, Bloomington & Normal Railway, Electric & Heating Co., The Brighton Electric Light and Power Company, Cairo City Gas Com-

pany, Champaign and Urbana Gas Light and Coke Company, Chicago and Illinois Valley Railroad Company, Danville Gas Light Company, Decatur Electric Company, The Decatur Light, Heat and Power Company, Elkhart Electric Light Co., The Jacksonville Gas Light & Coke Company, Jacksonville Railway and Light Company, St. Louis Electric Terminal Railway Company, Venice Gas Company, The Detroit Edison Company, Pacific Gas and Electric Company, Fox River Navigation Company, Huron Farms Company, The Edison Illuminating Company of Detroit, The Wayne Mining Company, Valley Electric Supply Company, Arlington Properties Company, Ltd., Western Canal Company, Vallejo Electric Light and Power Company, Essex County Light and Power Company, Limited, The Peninsular Electric Light Company, St. Clair Edison Company, The Washtenaw Light and Power Company, San Joaquin Light and Power Corporation, Midland Counties Public Service Corporation, Standard Pacific Gas Line, Incorporated, Argus Natural Gas Company, Inc., Peoples Natural Gas Co., and to all other persons, including the security holders and consumers of the said respondents, all States, municipalities, and political subdivisions of States within which are located any of the utility assets owned or operated by any of said respondents or under the laws of which any of the respondents are incorporated, all State Commissions, State securities commissions and all agencies, authorities or instrumentalities of one or more States, municipalities or other political subdivisions having jurisdiction over any of the respondents or over any of the buinesses, affairs or operations of any of them.

Said order further provides that any person proposing to intervene in said proceedings shall file with the Secre-

tary of the Securities and Exchange Commission on or before the 18th day of April, 1940, his request or application therefor as provided by Rule XVII of the Rules of Practice of the said Securities and Exchange Commission, and may, together with such request or application, file a proposed answer in form and content as hereinbefore provided, and which answer shall be deemed effectively filed upon the entry of an order by the Commission granting such request or application.

89 By order of the Securities and Exchange Commission this 8th day of March, 1940

Francis P. Brassor,
Secretary.

(SEAL)

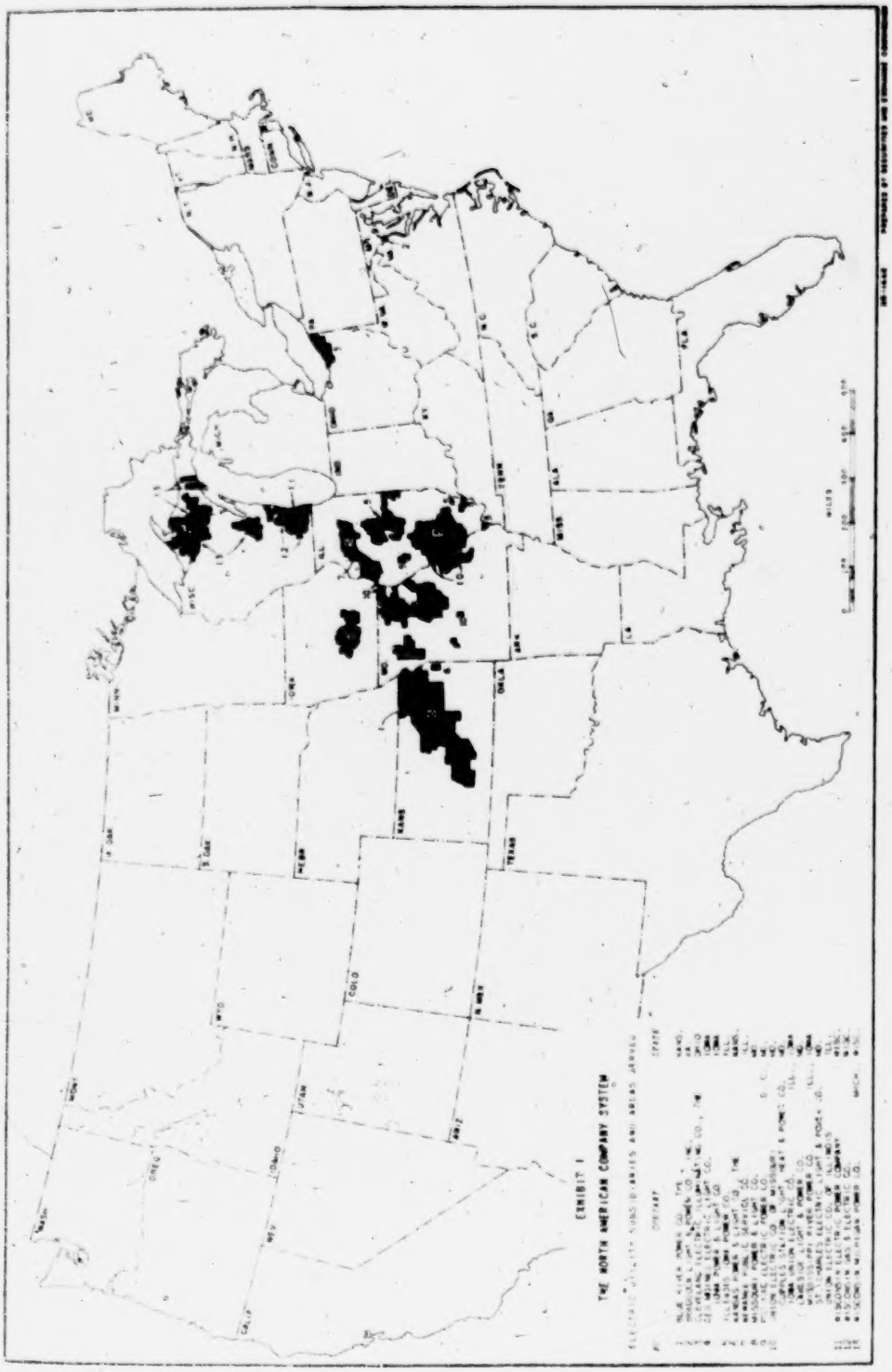
It is further ordered that any person proposing to intervene in these proceedings shall file with the Secretary of the Commission on or before the 18th day of April, 1940, his request or application therefor as provided by Rule XVII of the Rules of Practice, and may, together with such re-
90 quest or application, file a proposed answer in form and content as hereinabove provided, which said answer shall be deemed effectively filed upon the entry of an order by the Commission granting such request or application.

By the Commission.

Francis P. Brassor
Francis P. Brassor,
Secretary.

(SEAL)

MAP



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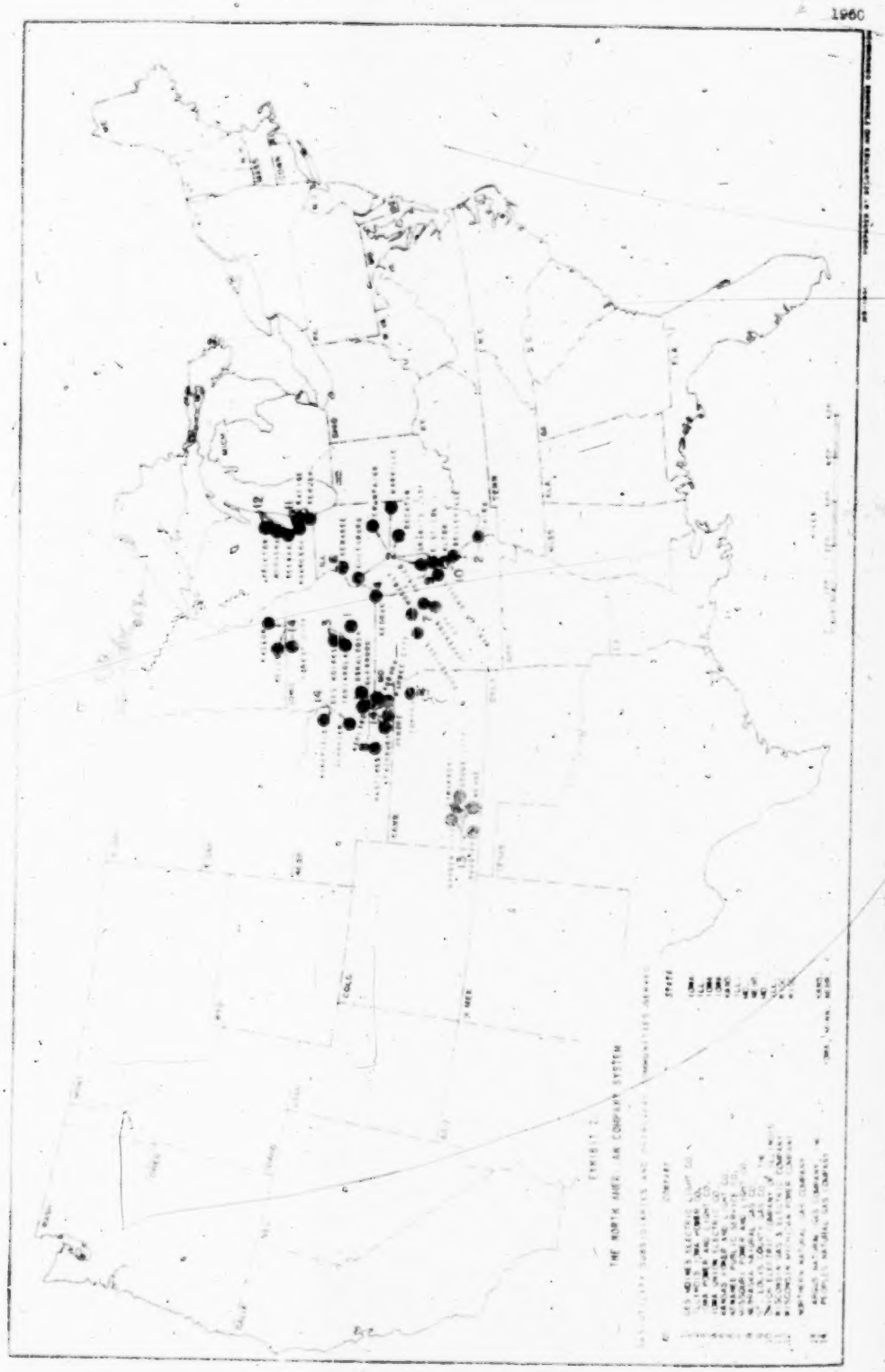

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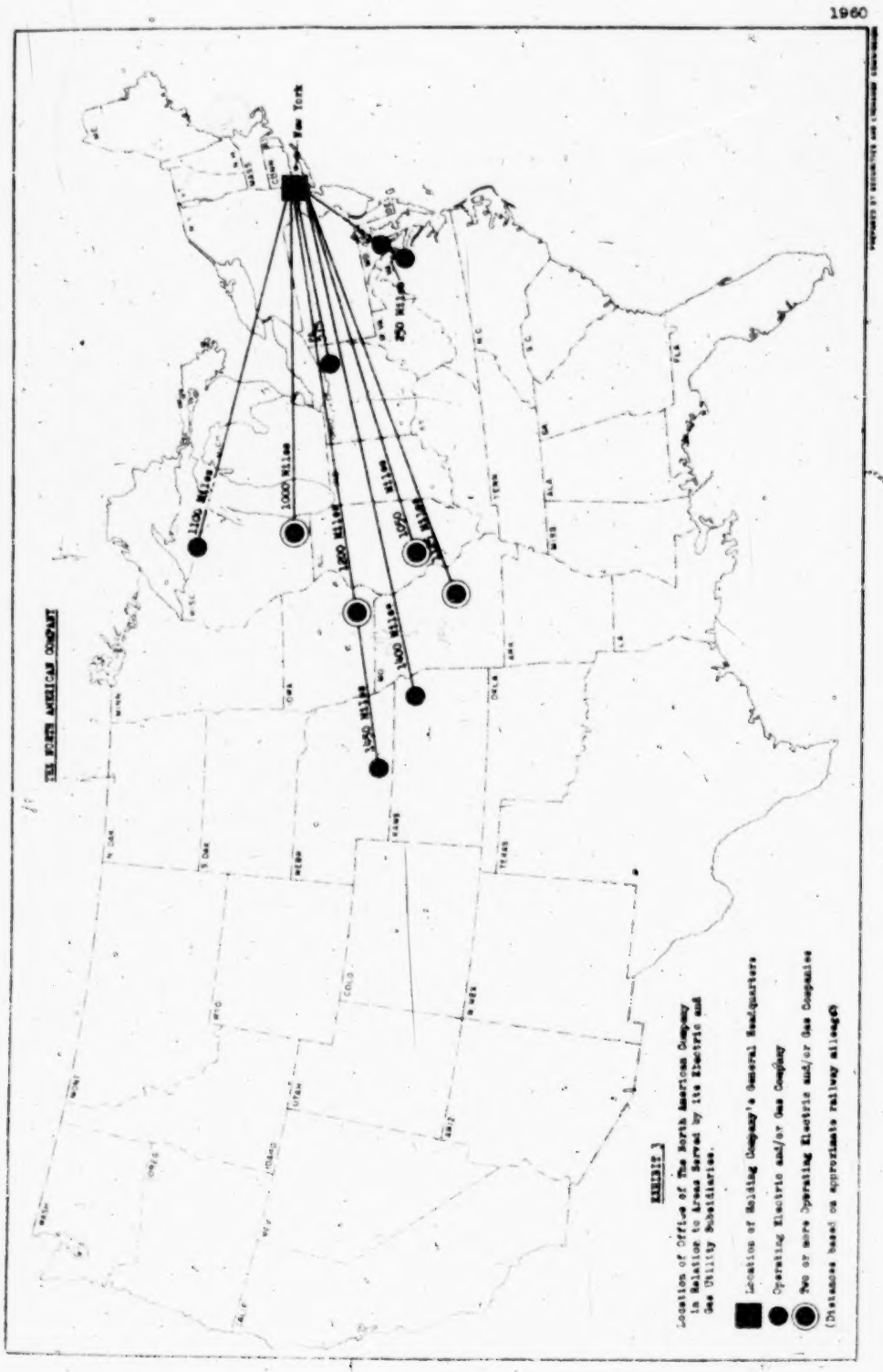
1960
New York
THE NORTH AMERICAN COMPANY
EXHIBIT 1
Location of Office of The North American Company
in Relation to Areas Served by its Electric and
Gas Utility Subsidiaries.
Location of Holding Company's General Headquarters
Operating Electric and/or Gas Company
Two or more Operating Electric and/or Gas Companies
(Distances based on approximate railway mileage)

100 *Application*

UNITED STATES OF AMERICA

BEFORE THE

SECURITIES AND EXCHANGE COMMISSION

IN THE MATTER

of

THE NORTH AMERICAN COMPANY

101 *and its*

SUBSIDIARY COMPANIES,

Respondents.

File No. 59-10
Public Utility Holding Company Act of 1935,
Section 11(b)(1)

APPLICATION

102 The respondent, The North American Company, on its own behalf and on behalf of each of the other respondents herein, hereby applies for an extension of the time in which to answer the order herein issued March 8, 1940, for a period of thirty days to and including the 18th day of May, 1940, and requests that the hearing herein be postponed until the twentieth day thereafter (or such later date as the Commission may prior thereto fix by supplementary notice).

The reason for this application is as follows:

The respondent is in the course of formulating a statement of the program to be included in the answer to the

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order herein which will be filed by the respondent pursuant to Part VI of such order. The formulation of such a statement is a difficult and complicated matter involving, as it does, serious questions of policy as well as many legal and practical considerations. The respondent finds that this task of formulation cannot be completed by April 18, 1940, but will require approximately thirty days longer.

WHEREFORE, respondent prays that the time within which it and each of the other respondents herein are required to answer the order herein issued March 8, 1940, be extended 104
for a period of thirty days to and including May 18, 1940, and that the hearing herein be postponed until the twentieth day thereafter (or such later date as the Commission may prior thereto fix by supplementary notice).

Dated, April 12, 1940.

(CORPORATE SEAL) THE NORTH AMERICAN COMPANY

By HERBERT C. FREEMAN
Vice-President.

105

Attest:

REED HARTEL
Secretary

106 *Application*

STATE OF NEW YORK, }
COUNTY OF NEW YORK, } ss.:

The undersigned, being duly sworn, deposes and says that he has duly executed the attached Application, dated April 12, 1940, for and on behalf of The North American Company; that he is a Vice-President of such company; and that all action by stockholders and directors, and other bodies necessary to authorize deponent to execute and file such instrument, has been taken. Deponent further says that he is
107 familiar with such instrument, and the contents thereof, and that the facts therein set forth are true to the best of his knowledge, information and belief.

HERBERT C. FREEMAN
(Herbert C. Freeman)

Subscribed and sworn to before me, a notary public, this 12th day of April, 1940.

ARTHUR MAYER
ARTHUR MAYER
108 Notary Public, Nassau Co. No. 855
New York Co. Clerk's No. 5
New York Co. Register's No. 1-M-12
Term Expires March 30, 1941

[NOTARIAL SEAL]

109

UNITED STATES OF AMERICA

BEFORE THE

SECURITIES AND EXCHANGE COMMISSION

At a regular session of the Securities and Exchange Commission, held at its office in the City of Washington, D. C., on the 17th day of April, A. D., 1940.

110

IN THE MATTER

of

THE NORTH AMERICAN COMPANY

and its

SUBSIDIARY COMPANIES,

Respondents.

File No. 59-10

111

ORDER EXTENDING TIME FOR ANSWER AND POSTPONING DATE FOR HEARING

The Commission having issued a Notice of and Order for Hearing in the above matter pursuant to Section 11(b)(1) of the Public Utility Holding Company Act of 1935; said Notice of and Order for Hearing having required that the respondents file with the Secretary of the Commission their joint or several answers thereto on or before the 18th day of April 1940, and having fixed the date for hearing in these proceedings on the 8th day of May 1940; and The North American Company, on its own behalf and on behalf of each

112 *Order Extending Time for Answer and Postponing Date for Hearing*

of the other respondents herein, having requested that said dates be extended for a period of 30 days; and

It appearing to the Commission from the facts stated in such application that such request is not unreasonable and may appropriately be granted;

IT IS ORDERED that the time for filing answers in these proceedings be and the same hereby is extended until the 18th day of May 1940, and the date for hearing be and is hereby
113 postponed until the 7th day of June 1940.

By the Commission.

FRANCIS P. BRASSOR
Francis P. Brassor,
Secretary.

Per

ARNAL L. DU BOIS

[SEAL]

114

115

UNITED STATES OF AMERICA

BEFORE THE

SECURITIES AND EXCHANGE COMMISSION

In the Matter of

THE NORTH AMERICAN COMPANY

and its

SUBSIDIARY COMPANIES

116

Respondent.

File No. 59-10

Public Utility Holding Company Act of 1935,
Section 11(b)(1)

Answer of The North American Company, a respondent.

ANSWER

117

I.

The respondent, The North American Company, for its answer to the order herein issued March 8, 1940:

1. Admits each and every allegation with respect to the respondent, and on information and belief admits each and every other allegation, set forth in paragraphs 1 to 62, both inclusive, of said order, except that it:

(a) Denies that either The Washington and Glen Echo Railroad Company or St. Louis and East St. Louis

Electric Railway Company is now a subsidiary company of the respondent or of one or more of its subsidiary companies, as alleged in paragraph 5 of said order, for the reason that The Washington and Glen Echo Railroad Company was dissolved on April 23, 1939, and St. Louis and East St. Louis Electric Railway Company was dissolved on August 5, 1939.

(b) Denies on information and belief that either Midland Counties Public Service Corporation or The
119 Wayne Mining Company is now a subsidiary company of any one or more of the companies named in paragraph 6 of said order, as alleged in paragraph 6 of said order, for the reason that Midland Counties Public Service Corporation was dissolved in December, 1939, and The Wayne Mining Company was dissolved in March, 1940.

(c) Denies that Kewanee Public Service Company owns or operates facilities used for the generation of electric energy, as alleged in paragraph 25 of said order.

(d) Denies that Cahokia Manufacturers Gas Company
120 owns and operates facilities used for the production of manufactured gas for sale at wholesale, as alleged in paragraph 50 of said order, and alleges that said Cahokia Manufacturers Gas Company owns and leases to Illinois Iowa Power Company facilities in the State of Illinois used for the distribution of natural gas.

(e) Denies that either Wired Radio, Inc., or Wired Rediffusion Developments, Ltd., is now a subsidiary company of the respondent, as alleged in paragraphs 3, 60 and 61 of said order, for the reason that on April 1, 1940 the respondent transferred and delivered to Associated Music Publishers, Inc., a corporation which is not a sub-

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sidiary of the respondent or of one or more of its subsidiary companies, all of the outstanding capital stock of Wired Radio, Inc., pursuant to an agreement between the respondent, Warner Bros. Pictures, Inc., and Associated Music Publishers, Inc., dated May 29, 1939.

(f) Denies that the allegations of paragraphs 8 to 62, both inclusive, of said order describe fully in all cases the respective businesses of the various respondents.

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2. In answer to paragraph 63 of said order, respondent alleges that the provisions of the Act are so vague and uncertain that the respondent does not have knowledge or information sufficient to form a belief as to what constitutes a single integrated public utility system within the meaning of the Act, or as to what constitutes such other businesses as are reasonably incidental, or economically necessary or appropriate to the operations of such system within the meaning of the Act.

II.

123

The respondent, The North American Company, further alleges for an affirmative defense as follows:

3. The business of respondent consists, and has consisted since shortly after its incorporation in 1890, in acquiring, owning and holding stocks and other securities of corporations doing business in different states and groups of states, for diversification and long term investment, as is more fully set forth in Part III of this answer.

4. The corporations in which respondent has so invested are each organized under the laws of one of the States of the

United States, except that one of such corporations is organized under an Act of Congress. Each of the corporations in which respondent has investments maintains an organization responsible to its own board of directors, and each functions under the control of its own board of directors subject to the laws and regulatory agencies of the State in which it is incorporated or does business.

5. Respondent is not engaged in the business of sending or transporting or causing to be sent or transported, goods,
125 commodities or services in commerce with foreign nations or among the several States, or in any other kind of interstate commerce, and such use as respondent makes of the mails or any other means or instrumentality of interstate commerce is merely incidental to the intrastate business of respondent hereinabove described.

6. Rule U-4 of the Commission permitted the respondent to register as a holding company and to take all subsequent action under the Act with full reservation of all its constitutional and legal rights, and in accordance with such rule
126 respondent has at all times fully reserved all its constitutional and legal rights.

7. The respondent, on information and belief, alleges that Section 11(b)(1) of the Public Utility Holding Company Act of 1935, and any other provisions of said Act which may be used to implement the purposes of said Section 11(b)(1), if and to the extent that they purport to require action to be taken by the respondent (including the divestment of control, securities or other assets) to dispose of its valuable investments or any substantial part thereof or to limit the operations of any of the registered holding companies named in

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said order to a single integrated public utility system, and to such other businesses as are reasonably incidental, or economically necessary or appropriate to the operations of such integrated public utility system, are invalid, void and of no effect in that they violate and contravene the provisions of the Constitution of the United States and the Amendments thereto, in the following respects, among others: (a) they are not a valid exercise of the power of Congress to regulate Commerce among the several States, and seek to impose arbitrary and unconstitutional restrictions upon such commerce; are not a valid exercise of the power of Congress to establish Post Offices and post Roads, and seek to impose arbitrary and unconstitutional restrictions upon the use of the mails; are not a valid exercise of any power conferred by the Constitution upon Congress; and are, therefore, in violation of Article I, Section 8 of the Constitution; (b) they attempt unlawfully to delegate legislative power to the Securities and Exchange Commission, in violation of Article I, Section 1 of the Constitution; (c) they attempt to deprive the respondent and its securityholders of their property without due process of law, in violation of the Fifth Amendment to the Constitution; (d) they attempt to take the private property of the respondent and its securityholders for public use without just compensation, in violation of the Fifth Amendment to the Constitution; (e) they attempt to impose excessive fines and cruel and unusual punishments upon the respondent, in violation of the Eighth Amendment to the Constitution; (f) they attempt unlawfully to impose a Federal system of regulation and destruction upon the respondent and thereby attempt to invade and usurp powers reserved to the States, in violation of the Tenth Amendment to the Constitution; (g) they attempt to subject the respondent to

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130 unreasonable searches and seizures, in violation of the Fourth Amendment to the Constitution; and (h) they seek to deprive the respondent of its rights to a judicial determination of all questions of fact affecting its constitutional rights, and thereby deprive the respondent of its property without due process of law, in violation of the Fifth Amendment to the Constitution.

III.

131 The respondent, The North American Company, without waiving any of the rights or contentions hereinabove mentioned, further states its position as follows:

8. The North American Company was incorporated under the laws of New Jersey in 1890 by a group which believed that the economic development and general welfare of this country would be promoted by the creation of a large capital fund which would be available to finance industry in various parts of the United States, particularly in the electrical field, and that this capital fund would itself be protected by poli-
132 cies of prudent and careful investment, coupled with diversification. The North American Company has now had a continuous corporate existence of fifty years, without reorganization. Throughout such fifty-year period the Company has adhered to the basic conceptions which gave it birth and which it believes to have been sound and to be of continuing validity.

The capital funds of The North American Company are now represented by $70,000,000 of debentures, more than $65,000,000 par value of preferred stock and more than $85,000,000 par value of common stock. The aggregate market value of the Company's outstanding securities on May 10,

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1940 was approximately $330,000,000. Such securities are held by more than 2,800 debenture holders, more than 15,000 preferred stockholders and more than 58,000 common stockholders.

Throughout the Company's existence there has never been a default on any security issued by it, and the holders of securities issued by its subsidiaries have constantly benefited by the sound investment policies which it has maintained and fostered.

The North American Company has a record of outstanding achievement in the development of the electrical industry, and its subsidiaries have long been among the acknowledged leaders in the field. Consumers have benefited through a long history of rate reductions while service has constantly improved.

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9. The North American Company made its first investment in public utility enterprises in 1890 by acquisition of an interest in certain small properties in Milwaukee, Wisconsin, and in that year also entered into a contract with Thomas A. Edison for wider applications of electric power. During the ensuing five years its interest was increased by the addition of other properties, all of which were consolidated in 1896 into The Milwaukee Electric Railway and Light Company, now named Wisconsin Electric Power Company, which is today The North American Company's principal investment in Wisconsin.

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In 1901 The North American Company invested in one of the properties in St. Louis, Missouri, now held by Union Electric Company of Missouri, which is today one of the principal investments of The North American Company, operating in St. Louis and the adjoining area.

In 1903 The North American Company acquired its first interest in The Detroit Edison Company, and today holds a substantial investment in the stock of that company although it is not a subsidiary.

In 1922 The North American Company acquired its first interest in The Cleveland Electric Illuminating Company, which is today one of its principal investments.

In 1925 The North American Company acquired an interest in utilities in Washington, D. C., and today its principal investment in that area is in Washington Railway and Electric Company which controls Potomac Electric Power Company.

In 1925 The North American Company acquired control of Western Power Corporation, which held properties in California. Those properties were later sold to Pacific Gas and Electric Company, as a result of which The North American Company today holds a substantial investment in that company, although it is not a subsidiary.

In 1926 The North American Company acquired a substantial interest in North American Light & Power Company, the principal properties of which are in Illinois, Iowa, Missouri and Kansas.

10. All of these utility investments by The North American Company have been continuous and, in the case of the four major operating companies in Milwaukee, St. Louis, Cleveland and Washington, have been enlarged through substantial increase in the common stock equities. The money so provided has not only financed a large part of the property additions, but it has also furnished a basis of junior equity money required by the operating companies in order to enable them to obtain additional funds they needed for property additions through the sale of bonds and preferred stocks.

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11. Under the law the responsibility for the management of the business and for the protection of the investments of The North American Company and the interests of its security holders is vested in the Board of Directors of The North American Company. These Directors believe, and it has long been their guiding principle, that the interests of their security holders must and do coincide with public policy and the general welfare. The Directors have carefully examined the Holding Company Act to ascertain whether it embodies any new and valid rule of Federal public policy, which should change their policies for The North American Company, but find that such is not the case, assuming that the Act is to be reasonably interpreted and applied. Section 1(b) of the Act enumerates certain specific abuses and Section 1(c) states that the provisions of the Act are to be interpreted with a view to the elimination of such abuses. Such abuses have never been present in the holding company system under respondent's control and the future avoidance of such abuses is already assured by the controls and regulation established by Federal and state statutes. As to Section 11(b)(1) of the Act, respondent's Directors are unable to find any proper basis for its application to The North American Company, and its provisions are so vague and uncertain in their scope that they do not, in law or in fact, provide a clear and practical guide to corporate action.

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12. In the course of performance of their legal duty to manage the affairs of The North American Company in accordance with their best judgment and their own long established policies, its directors have taken or caused to be taken important steps designed to simplify the corporate structure of the holding company system and to dispose of

certain assets. The action of respondent's directors in these respects has coincided with what respondent believes to have been the views of the Commission as to the intent of Section 11(b)(2) of the Act. Among such steps during recent years may be noted:

(a) The elimination in 1939 of North American Edison Company, the principal intermediate holding company in the North American system, which had approximately $129,000,000 of securities outstanding. This was
143 an operation of such magnitude, involving the refunding of some $104,000,000 of securities, that it required the continued and concentrated attention of the management of The North American Company over an extended period and was particularly cited in the Fifth Annual Report of the Commission as having "involved the largest financing under the Public Utility Holding Company Act of 1935 to that time".

(b) The recapitalization in 1937 of Illinois Power and Light Corporation (now named Illinois Iowa Power Company) which involved a readjustment of over
144 $74,000,000 par amount or stated value of preferred and common stocks, and which was cited in the Third Annual Report of the Commission. The development and carrying out of this plan required intensive work over an extended period. Although the plan was approved by the stockholders and by the Commission, a few stockholders brought an injunction suit, which is still pending, with the result that the fruition of the benefits which the recapitalization offered to securityholders has been delayed.

(c) The simplification in 1937 of the corporate structure of the holding company system of Union Electric

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Light and Power Company (now named Union Electric Company of Missouri). The simplification was accomplished by the merger of four public utility companies, Union Electric Light and Power Company of Illinois, Power Operating Company, Alton Light & Power Company and Alton Gas Company, which operated in and around Alton and East St. Louis, Illinois, into the East St. Louis Light & Power Co., a public utility company operating in the same area, its name being changed to Union Electric Company of Illinois.

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This was cited in the Third Annual Report of the Commission as follows:

> "There is one outstanding example of the type of transaction by which the corporate structure of a holding company system was simplified through a merger of a number of subsidiary companies into one operating company. * * *
>
> "The result of these transactions, therefore, was the reduction of the number of subsidiaries in the North American Company system by four and a very substantial simplification in the corporate structure of its Missouri and Illinois subsidiaries."

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These were transactions of magnitude, accompanied by the redemption of over $80,000,000 of securities and the public issue of $95,000,000 of new securities.

(d) The merger in 1938 of the former Wisconsin Electric Power Company into The Milwaukee Electric Railway and Light Company (now named Wisconsin Electric Power Company) and the segregation of the transportation properties of the latter company into a new company, The Milwaukee Electric Railway & Transport Company. This was also a transaction of magni-

148 tude, involving the redemption of over $76,000,000 of securities and the issue of over $78,000,000 of new securities.

(e) The dissolution during the past five years of fourteen subsidiary companies of Union Electric Company of Missouri: Central Mississippi Valley Electric Properties, a voluntary trust, holding public utility securities, was terminated in 1937 after transferring on liquidation all of its assets to Union Electric Company
149 of Missouri. Fort Madison Electric Company and Dallas City Light Company, electric utility companies operating in and around Fort Madison, Iowa, and Dallas City, Illinois, respectively, were dissolved in 1937 after transferring their property to Keokuk Electric Company (now named Iowa Union Electric Company). Missouri Transmission Company, an electric utility company owning a transmission line in Missouri, was dissolved in 1938 after transferring its property to Mississippi River Power Company. Blue Goose Motor Coach Co., Inc., a transportation company, was dissolved in 1936 after the sale
150 of substantially all of its tangible assets to non-affiliated interests. St. Louis Electric Light and Power Company, The East St. Louis and Suburban Company, East St. Louis Supplies Company, The Edison Electric Illuminating Company of Carondelet, The Light and Development Company of St. Louis, The Electric Company of Missouri, National Subway Company of Missouri, Carondelet Electric Light and Power Company and St. Louis and East St. Louis Electric Railway Company, all of which had become inactive companies, were also dissolved during this period.

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(f) The dissolution during the past five years of the following thirteen additional companies: Edison Securities Corporation, an investment company, and Northwest Trading Company, a non-utility company, were dissolved in 1935. Western Power Corporation, a public utility holding company subsidiary of The North American Company, was dissolved in 1936, and its assets were distributed to the common stockholders, the principal stockholder of which was The North American Company. The Washington Interurban Railroad Company, Washington Coach Company, Washington Suburban Coach Company and Washington and Maryland Railway Company, which had become inactive companies, were dissolved in 1936. The Illuminating Securities Company, a non-utility company, was dissolved in 1937. The Power Construction Company, Overton-Williams-Pinner Company, West Kentucky Property Company and Potomac Electric Appliance Company, non-utility companies, were dissolved in 1938. The Washington and Glen Echo Railroad Company, which had become an inactive company, was dissolved in 1939.

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(g) The merger, dissolution or transfer to non-affiliated interests during the past five years of thirty companies in North American Light & Power Company's system: The principal electric and gas utility properties owned by subsidiary companies in Kansas were consolidated in 1935 into one company through the acquisition by The Kansas Power and Light Company of the properties of The United Power & Light Corporation (of Kansas), The McPherson Gas Company, The Kingman County Gas Company, Public Service Company of Kansas and The Peoples Ice and Fuel Company, all of these

154 companies, other than The Kansas Power and Light Company, being dissolved. In 1935 and 1936, Illinois Power and Light Corporation (now named Illinois Iowa Power Company) sold its interest in the common stock of Super-Power Company of Illinois to Commonwealth Edison Company, which is not affiliated with The North American Company. The stock of The Kansas Pipe Line & Gas Company, a gas transmission company, was sold in 1936 to non-affiliated interests. Mills County Power Company, a public utility holding company, was dis-
155 solved in 1936. Six railroad companies, Illinois Terminal Railroad Company (previously named Illinois Terminal Company), Alton & Eastern Railroad Company, Illinois Traction, Inc., St. Louis and Illinois Belt Railway, The St. Louis, Troy and Eastern Rail Road Company and The Alton Terminal Railway Company, which owned or operated railway properties in central Illinois, were consolidated in 1937 into a new corporation, Illinois Terminal Railroad Company. The assets of Des Moines Gas Company, a gas utility company, were ac-
156 quired by Iowa Power and Light Company in 1938 and Des Moines Gas Company was dissolved. Le Roy Electric Light, Power and Heating Company and Champaign Depot and Terminal Company were merged in 1938 into Venice Gas Company. Iowa Transmission Line Company, an electric utility company, was dissolved in 1939 after the sale of its electric properties to Mississippi River Power Company. The Atchison Railway Light and Power Company, The Salina Light, Power and Gas Company, The United Water, Gas and Electric Company, North American Light & Power Company (Maine), Western Railways and Light Company, Cairo Railway

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and Light Company, The Kansas Public Service Company, Des Moines Electric Company, Illinois Terminal Transportation Co., Illinois Terminal Railroad Company, Natural Gas Distributing Company and North American Pipe Line Company, all of which had become inactive companies, were also dissolved during this period.

(h) The North American Company disposed in 1938 of its ownership and control of Associated Music Publishers, Inc. and Breitkopf Publications, Inc., music companies, and Muzak Corporation, a wired music program 158 company, pursuant to an agreement between The North American Company and Warner Bros. Pictures, Inc., dated April 1, 1938. As already stated in paragraph 1 above, on April 1, 1940 The North American Company disposed of its ownership and control of Wired Radio, Inc., pursuant to an agreement between The North American Company, Warner Bros. Pictures, Inc., and Associated Music Publishers, Inc., dated May 29, 1939.

13. In further exercsie of their judgment with respect to the management of the affairs of The North American 159 Company, its directors propose, subject to due corporate action:

(A) To dispose of or otherwise liquidate the investment of The North American Company in North American Utility Securities Corporation, an investment company. It is planned to consummate this step as promptly as practicable.

(B) To dispose of the interest of The North American Company in West Kentucky Coal Company if and as soon as a satisfactory sale can be made. The North

160 American Company has for some time sought this result, but the conditions in the coal industry have been such that no purchaser could be found, even on terms involving some sacrifice of intrinsic value. The North American Company is unable, on this account, to forecast the time within which such sale can be effected.

(C) To dispose of its investment in The St. Louis County Gas Company, preferably, in effect, through an exchange for the electrical property in St. Louis now
161 owned by The Laclede Gas Light Company and Laclede Power & Light Company, thereby achieving a further separation of electric and of gas properties, and further integration of each of these two types of service. The North American Company and the owners of the Laclede property have for some time sought this result, and the matter is now under active consideration. It is believed that, with the cooperation of the Laclede companies, this result can be achieved within the current year.

(D) To reduce or modify the form of the investment of The North American Company in Washington Railway
162 and Electric Company to such extent that The North American Company does not have effective control over Washington Railway and Electric Company. In initiation of this program The North American Company in December 1939 paid out, as a special dividend to its stockholders, approximately six per cent of its holdings of common stock of Washington Railway and Electric Company. The North American Company is also prepared to dispose of its controlling interest in Washington Railway and Electric Company through public distribution provided there is a reasonable public market, but it is believed that prior to such relinquishment of control there should be

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a simplification of the corporate structure by a merger of Washington Railway and Electric Company with its subsidiary, Potomac Electric Power Company. This matter has already been the subject of discussion with the regulatory authorities.

(E) To reduce or modify the form of the investments of The North American Company in Wisconsin Electric Power Company, in Wisconsin Gas & Electric Company and in Wisconsin Michigan Power Company to such extent that The North American Company does not have 164
effective control over any of those companies. The initial steps have already been taken (i) by improving the capital structure of Wisconsin Electric Power Company so as to reduce the amount required to service securities senior to the common stock, and (ii) for establishing a public market for the common stock of Wisconsin Electric Power Company. Previously, the entire common stock of that company had been owned by The North American Company. The Company proposes to proceed with the program by public or other distribution of the major portion of its holdings of stock in the three Wisconsin companies 165
as soon as conditions permit without sacrifice of intrinsic values.

(F) To dispose of its investment in North American Light & Power Company when conditions permit without sacrifice of intrinsic values. It may be advantageous to defer this pending simplification and improvement of the capital structure of the North American Light & Power system. Furthermore, certain of the properties controlled by North American Light & Power Company are now in part, and should, in the opinion of The North American Company, be further integrated with the properties of

166 Union Electric Company of Missouri by adding them to the system centering on St. Louis. The problem of creating for the North American Light & Power system a corporate structure which is simple and sound is a problem of considerable difficulty. The North American Company has already, during the seven years it has had control of North American Light & Power Company, been engaged on steps designed to promote simplification and adjustment to earning power of securities in the North American Light & Power system, such as the recapitaliza-
167 tion in 1937 of Illinois Power and Light Corporation (now named Illinois Iowa Power Company), mentioned above, which is now involved in litigation brought by a few stockholders. Further steps are obviously called for, the accomplishment of which can much more readily be assured if control of North American Light & Power Company is retained for the time being by The North American Company. It is impracticable for The North American Company to forecast with any accuracy the time required to simplify the corporate and financial structure of the North American Light & Power system
168 as a preliminary to divestment, because these matters involve public stockholders' assent and the possibility of unavoidable delay through litigation as is now occurring in the case of Illinois Iowa Power Company. The North American Company believes, however, that substantial progress can be made within a reasonable period of time.

14. The foregoing programs are in line with what The North American Company believes to be the views of the Commission as to the operation of Section 11(b)(1). If these programs can be carried out as now envisaged they will involve the disposal through sale, exchange or other means of

perhaps one-third of the present assets of The North American Company. The disposal of these particular assets would result in the divestment of The North American Company's control over electric and gas utility companies with assets having a carrying value on the books of the respective companies of approximately $450,000,000 and over other companies (including traction companies) with assets having a carrying value of approximately $200,000,000. This would, in substance, leave The North American Company, in respect of integrated systems, with (i) a system already substantially integrated, based on St. Louis and conducting operations within the adjoining states of Missouri, Illinois and Iowa, and (ii) one additional integrated system based on Cleveland.

The foregoing programs do not contemplate any present change in the Company's investments in The Detroit Edison Company and Pacific Gas and Electric Company, which investments do not constitute control.

15. Upon completion of the foregoing programs, the Company will have retained the major investments referred to in the foregoing paragraph, and will also have the proceeds received upon disposal of certain assets referred to above. Such proceeds will be available as capital resources for the acquisition of other properties which can be advantageously integrated with the systems based on St. Louis and Cleveland, or for improvements and additions to those systems, or for other investment in accordance with the sound principles which have characterized The North American Company's past activities, and with the benefit of fifty years of practical experience. The Company believes that a constructive interpretation or evolution of the Act will provide continued opportunity for the employment of its resources both in the public interest and in the interest of its stockholders.

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16. The programs set forth above will involve great procedural difficulties in view of the provisions of many applicable Federal and state laws, the rules of the Commission and of local or state regulatory commissions and authorities, and the provisions of corporate charters, indentures and mortgages. It is believed that these programs can be carried through in two or three years, on the assumption that the executives of The North American Company are able to devote thereto their active and virtually continuous attention. Even this time forecast would have been impossible had not
173 The North American Company been actively engaged during the past several years in consummating a number of fundamental corporate adjustments designed to give it greater flexibility of action.

17. In the opinion of The North American Company it would be impracticable and would serve no useful purpose, nor would it be realistic, at the present time to consider further adjustments which, in view of the magnitude and complexity of the plans set forth above, could not in fact be realized contemporaneously therewith.

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WHEREFORE, respondent prays that the Commission grant such relief in the premises as may be just and proper under the laws and Constitution of the United States of America.

Dated, May 16, 1940.

THE NORTH AMERICAN COMPANY

(SEAL)

By E. L. SHEA
President
60 Broadway,
New York, N. Y.

Attest:

REED HARTEL
Secretary

Motion 175

UNITED STATES OF AMERICA

BEFORE THE

SECURITIES AND EXCHANGE COMMISSION

IN THE MATTER

of

THE NORTH AMERICAN COMPANY 176

and its

SUBSIDIARY COMPANIES,

Respondents.

File No. 59-10
Public Utility Holding Company Act of 1935,
Section 11(b)(1)

Motion of The North American Company, a respondent, For Adjournment. 177

MOTION

The North American Company, a respondent in this proceeding, respectfully moves that the hearing in this proceeding be adjourned, subject to the further order of the Commission, and that this proceeding be held in abeyance, on the following grounds:

(1) That the answer of The North American Company filed with the Securities and Exchange Commission on May

178 16, 1940 in this proceeding sets forth the position of The North American Company with respect to the allegations of the Commission contained in the Notice of and Order for Hearing of the Commission, and that no further action should be taken in this proceeding until The North American Company has had a fair and full opportunity to proceed in the manner indicated in said answer, and particularly Paragraph 13 of Part III thereof.

(2) That no further action in this proceeding should be
179 taken until the Commission has made its investigations and studies and made public its recommendations as to the type and size of geographically and economically integrated public utility systems which can be best promote and harmonize the interests of the public, the investor and the consumer, which investigations, studies and recommendations the Commission is directed to make by Section 30 of the Act.

In filing this motion The North American Company reserves the right to take such other action as may be deemed appropriate in view of the Commission's action with respect
180 to this motion, including the right to move for further adjournment or for the dismissal of this proceeding, on constitutional or other grounds.

This motion is accompanied by a brief in support hereof.

This motion is made and the accompanying brief is filed in full reliance on Rule U-4, as amended, of the Commission under the Act. Neither the making of this motion nor the filing of such brief, nor the acceptance of or reliance upon any order, rule or regulation, nor the compliance with any provisions of the Act, of the rules and regulations thereunder, or of any order or direction of the Commission shall be deemed a waiver of any constitutional or legal right of

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The North American Company or of any of its subsidiary companies, all of which are hereby expressly reserved.

June 7, 1940.

SULLIVAN & CROMWELL,
Attorneys for Respondent,
The North American Company,
48 Wall Street,
New York, N. Y.

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184 *Order Adjourning Hearing*

UNITED STATES OF AMERICA

BEFORE THE

SECURITIES AND EXCHANGE COMMISSION

At a regular session of the Securities and Exchange Commission held at its office in the City of Washington, D. C., on the 7th day of June, A. D., 1940.

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185 IN THE MATTER

of

THE NORTH AMERICAN COMPANY

and its

SUBSIDIARY COMPANIES,

Respondents.

File No. 59-10

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186 **ORDER ADJOURNING HEARING**

The Commission having heretofore, by order duly entered on April 17, 1940, fixed the date for hearing in the above entitled proceeding as June 7, 1940, and the respondent The North American Company having filed on said date a motion for the adjournment of the hearing in said proceeding and that said proceeding be held in abeyance:

IT IS ORDERED that said hearing be, and the same is hereby adjourned to June 21, 1940, at ten o'clock in the forenoon, in the Washington offices of the Commission, 1778 Pennsyl-

vania Avenue, N.W., Washington, D. C., and that in all other respects the motion be and it hereby is denied.

By the Commission.

FRANCIS P. BRASSOR,

(SEAL) Secretary.

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UNITED STATES OF AMERICA

BEFORE THE

SECURITIES AND EXCHANGE COMMISSION

IN THE MATTER

of

THE NORTH AMERICAN COMPANY

and its

191

SUBSIDIARY COMPANIES,

Respondents.

File No. 59-10

Public Utility Holding Company Act of 1935,
Section 11(b)(1)

MOTION TO DISMISS

192 The North American Company, a respondent herein, respectfully moves for an order dismissing this proceeding on the ground that the Commission is without power or jurisdiction under the Public Utility Holding Company Act of 1935 and the laws and Constitution of the United States to make its notice and order herein dated March 8, 1940, for the following reasons:

1. The Commission is authorized and directed by Section 30 of the Public Utility Holding Company Act of 1935 (hereinafter referred to as the "Act") "to make studies and investigations of public utility companies, the territory served or which can be served by public utility companies

and the manner in which the same are and can be served, to determine the sizes, types and locations of public utility companies which do and can operate most economically and efficiently in the public interest, in the interest of investors and consumers, and in furtherance of a wider and more economical use of gas and electric energy" and upon the basis of such investigations and studies to "make public from time to time its recommendations as to the type and size of geographically and economically integrated public utility systems which, having regard for the nature and character of the locality served, can best promote and harmonize the 194
interests of the public, the investor and the consumer", and no recommendations have been made public by the Commission in accordance with the terms of Section 30 of the Act.

2. It is contrary to the provisions of the Act itself and to the intent and mandate of Congress for the Commission to proceed by notice and order pursuant to Section 11(b)(1) until the Commission has made its investigations and studies and made public its recommendations as to the type and size of geographically and economically integrated public utility systems which can best promote and harmonize the interests 195
of the public, the investor and the consumer, which investigations, studies and recommendations the Commission is directed to make by Section 30 of the Act.

3. Congress intended that these Respondents have available, and these Respondents and each of them were entitled under the Act to have made public from time to time, the Commission's recommendations in accordance with the directions contained in Section 30, so as to allow a reasonable period of time for voluntary compliance with Section

196 *Motion to Dismiss*

11(b)(1) before the Commission instituted proceedings to force compliance therewith.

4. Said notice and order, and requiring Respondents to proceed with a hearing thereon, before the Commission has made such studies and published such recommendations, would deprive Respondents of property without due process of law in violation of the Fifth Amendment to the Constitution of the United States.

197 In filing this motion The North American Company reserves the right to take such other action as may be deemed appropriate in view of the Commission's action with respect to this motion, including the right to move for an adjournment of the hearing herein or for the dismissal of this proceeding on constitutional or other grounds.

This motion is made and filed in full reliance on Rule U-4, as amended, of the Commission under the Act. Neither the making of this motion nor the acceptance of or reliance upon any order, rule or regulation, nor the compliance with any provisions of the Act, of the rules and regulations there-
198 under, or of any order or direction of the Commission shall be deemed a waiver of any constitutional or legal right of The North American Company or of any of its subsidiary companies, all of which are hereby expressly reserved.

In support of this motion The North American Company refers to Part II of its brief dated June 7, 1940, filed in support of its motion of the same date that the hearing of this proceeding be adjourned subject to the further order of the Commission, and that this proceeding be held in abeyance, and to the arguments and points therein made as fully as though said Part II of said brief accompanied this motion.

This motion is based on the records and files of the Commission under said Act.

WHEREFORE, respondent The North American Company prays that the Commission dismiss this proceeding.

SULLIVAN & CROMWELL,
Attorneys for Respondent
The North American Company,
48 Wall Street,
New York, N. Y.

June 17, 1940.

UNITED STATES OF AMERICA

BEFORE THE

SECURITIES AND EXCHANGE COMMISSION

At a regular session of the Securities and Exchange Commission held at its office in the City of Washington, D. C., on the 20th day of June, A. D., 1940.

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203 IN THE MATTER

of

THE NORTH AMERICAN COMPANY

and its

SUBSIDIARY COMPANIES,

Respondents.

File No. 59-10

ORDER DENYING MOTION TO DISMISS

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The respondent, The North American Company, having on June 18, 1940, filed with this Commission a motion to dismiss the above entitled proceeding, and the Commission having fully considered the same, and finding that the ground of said motion is substantially identical with the second ground assigned by said respondent for the granting of a motion filed with this Commission on June 7, 1940, whereby said respondent moved that the hearing in said proceeding be adjourned subject to further order of the Commission, and that said proceeding be held in abeyance, which motion was by order of this Commission of June 7, 1940

denied, except to the extent that the hearing theretofore set herein for June 7, 1940, was continued to June 21, 1940 and it appearing to the Commission, and the Commission finding that the present motion to dismiss this proceeding should likewise be denied;

IT IS ORDERED that the motion filed on June 18, 1940, by respondent, The North American Company, for the dismissal of the above entitled proceeding be, and the same is hereby denied.

By the Commission. 206

FRANCIS P. BRASSOR

FRANCIS P. BRASSOR,

(SEAL) Secretary.

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UNITED STATES OF AMERICA

BEFORE THE

SECURITIES AND EXCHANGE COMMISSION

IN THE MATTER

of

THE NORTH AMERICAN COMPANY

and its

209 SUBSIDIARY COMPANIES,

Respondents.

File No. 59-10

Public Utility Holding Company Act of 1935,
Section 11(b)(1)

MOTION FOR LEAVE TO AMEND ANSWER

The North American Company, a respondent herein,
210 hereby moves for leave to amend its answer herein by adding thereto the following paragraph:

> "18. The programs set forth in Part III of this Answer are proposed only upon the hypothesis of voluntary action by the respondent and shall not be construed as restricting the issues otherwise arising in this proceeding."

SULLIVAN & CROMWELL,
Attorneys for Respondent,
The North American Company.

August 5, 1940.

UNITED STATES OF AMERICA

BEFORE THE

SECURITIES AND EXCHANGE COMMISSION

At a regular session of the Securities and Exchange Commission, held at its office in the City of Washington, D. C., on the 13th day of August, A. D., 1940.

IN THE MATTER 212

of

THE NORTH AMERICAN COMPANY

and its

SUBSIDIARY COMPANIES,

Respondents.

File No. 59-10

Public Utility Holding Company Act of 1935, Section 11(b)(1)

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ORDER PERMITTING AMENDMENT OF ANSWER

The North American Company, one of the Respondents in the above entitled matter, having moved for leave to amend its answer herein by adding thereto the following paragraph:

"18. The programs set forth in Part III of this Answer are proposed only upon the hypothesis of voluntary action by the respondent and shall not be construed as restricting the issues otherwise arising in this proceeding."

The Commission having duly considered said motion and finding the same proper to be granted in accordance with the leave to amend said answer extended to said Respondent by the Commission in the course of the oral argument herein on July 15, 1940;

IT IS ORDERED that said motion be, and the same is hereby granted, and said answer be, and it is hereby deemed amended by the addition thereto of that paragraph hereinabove set forth.

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By the Commission.

ORVAL L. DuBOIS,
Recording Secretary.

(SEAL)

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SECURITIES AND EXCHANGE COMMISSION

PHILADELPHIA

IN THE MATTER

of

THE NORTH AMERICAN COMPANY

and its

218

SUBSIDIARY COMPANIES

Respondents

File No. 59-10

Public Utility Holding Company Act of 1935—
Section 11(b)(1)

FINDINGS AND OPINION OF THE COMMISSION

INTEGRATION OF HOLDING COMPANY SYSTEMS 219

Selection of Principal System

Where registered public utility holding companies which are respondents in proceedings under Section 11(b)(1) failed to indicate a choice of the principal systems they desire to retain, *held* Commission will base opinion upon a single integrated public utility system under the control of each such company as its principal retainable system and give such companies further opportunity to make appropriate argument as to the choice of any other single or principal system.

220 *Findings and Opinion of the Commission*

Where holding company failed to indicate a choice of a principal system and where a full record is presented to the Commission upon which final and definitive action may be taken, *held* that request for orders in the alternative indicating what additional systems and what other businesses may be retained in addition to various integrated utility systems controlled by such holding company is denied, particularly in view of number of systems and complexities which would be involved in making alternative findings.

221 *Additional Systems*

Geographical Limitations of Section 11(b)(1)(B)

Where registered holding company claims it may keep additional systems located anywhere in United States as long as each of States in which systems are located adjoins some other State in which systems controlled by the registered holding company are located, *held* the claim is invalid and that Section 11(b)(1)(B) bars retention of additional systems located elsewhere than in State in which principal system operates, or in States adjoining such a State, or in a
222 foreign country contiguous thereto.

Where two States are separated by a lake and have no common boundaries on land, but have such boundaries in the lake, *held* such States adjoin.

Additional Systems

Substantial Economies under Section 11(b)(1)(A)

Where claim is made that standard of Section 11(b)(1)(A) may be met in respect of additional systems if it is shown that economies merely more than nominal would be lost by severance of such systems from the holding company rela-

tionship, *held* the term "substantial economies" in Section 11(b)(1)(A) connotes "important" economies, and the degree of importance must be measured against the general policy of limiting a holding company to control of a single integrated utility system.

Additional Systems

Localized Management, Efficiency, Effectiveness of Regulation under Section 11(b)(1)(C)

Where registered holding company controls utility sys- 224
tems surrounding large cities in different widely scattered sections of the country, *held* the standard of localized management in Section 11(b)(1)(C) would not be satisfied by retention of such systems in combination.

Where a registered public utility holding company engaged in the natural gas production, transmission and wholesale business, controls a retail natural gas system which receives most of its gas from non-affiliated sources and it cannot be found that retention of such retail system would satisfy clauses (A) and (C) of Section 11(b)(1), *held* that it must be disposed of. 225

Combination of Gas and Electric Properties as Single Integrated System

Where claim is made that integrated gas and electric utility systems may be considered as constituting a single integrated public utility system, *held* gas and electric utility properties cannot, in combination, be regarded as a single integrated utility system under the Act.

Where Commission desires additional evidence to aid in determination as to whether the joint control of gas and

electric systems would satify clauses (A) and (C) of Section 11(b)(1), *held* the record will be reopened for the presentation of further evidence pertinent to that issue.

Other Businesses Retainable

Where registered public utility holding company holds securities of public utility companies which are subsidiaries within the meaning of the Act, *held* retention of such securities is permissible only if the subsidiary serves as the
227 principal, or a permissible additional system under clauses (A), (B), and (C) of Section 11(b)(1), and that such retention is not covered by the "other business" clauses.

Where registered public utility holding company holds interests in non-utility enterprises, *held* that the retention of such interests will not be held to be in the public interest unless it is shown that the public will benefit by the holding company's retention of the non-utility interest by reason of the relation of such non-utility business to economy of management and operation and the integration and coordination of related operating properties.

228 Where a registered public utility holding company held interests in a company engaged in the transportation business, and such registered public utility holding company was authorized to acquire such interests, by a Joint Resolution of Congress adopted prior to passage of the Act, *held* such Joint Resolution does not bar the Commission from ordering divestment of such interests if the standards of Section 11(b)(1) are not met.

Where claim was made that an investment in a non-utility business offers diversity to the operations of a holding company system and such interest should therefore be retained, *held* that the mere fact that an investment offers diversity

affords no justification under Section 11(b)(1) for its retention by a public utility holding company.

Where in 35 years of a coal company's existence it has not been found feasible to use the output from such company's mines in the permissible utility operations of a holding company system, *held* an interest in such company represents merely an investment in a business which bears no relation to the system's permissible utility operations, and such interest must be disposed of.

Where close operating relationship between the steam and the electric departments of a utility company is shown, 230
held the steam business may be retained under the "other business" clauses of Section 11(b)(1).

Where almost entire output of a coal company controlled within the holding company system is devoted to the permissible utility operations of such system, and where other facts show intimate relationship between coal company and retainable utility operations, *held* such coal company may be retained under the "other business" clauses of Section 11(b)(1).

Where 11-mile railroad having a relatively small amount 231
of property transports as its principal cargo a large portion of the coal consumed in permissible utility operations of a holding company system and where the mine from which such coal comes has been found to be retainable, *held* the railroad may be retained under the "other business" clauses of Section 11(b)(1).

Where a registered public utility holding company owns directly facilities used in the production and transmission of natural gas and holds the securities of gas utility companies, *held* the retention of such directly-owned production and transmission facilities satisfies the "other business"

clauses of Section 11(b)(1) with respect to a principal natural gas utility system which receives its gas supply from such registered public utility holding company and is closely related to the production and transmisison facilities.

Where, in support of the contention that certain non-utility interests may be retained under Section 11(b)(1), it is claimed that difficulty would be presented in attempting to dispose of such interests, *held* difficulty of disposition has no relation to permissibility of retention under Section
233 11(b)(1), but is relevant only to the time of compliance with orders of disposition.

Integrated Electric Utility System

Where a public utility company operates in areas having utility assets not physically interconnected with those in other service areas of such company except that such assets are physically interconnected with the facilities of non-affiliated companies whose facilities are in turn connected with the main service areas of such company, and it is not shown that the facilities in such isolated areas are physically oper-
234 ated in connection with the facilities in the main service areas as a single interconnected and coordinated system, *held* the electric utility facilities in both isolated and main areas cannot be regarded together as a single integrated public utility system.

APPEARANCES:

Ralph C. Binford, Herman Odell, and *Ester M. Calkin,* for the Public Utilities Division of the Commission.

Sullivan & Cromwell, New York, New York, *S. Pearce Browning, Jr.,* and *Charles S. Hamilton, Jr.,* of counsel for

The North American Company and its subsidiaries, other than North American Light & Power Company and its subsidiaries.

Schenker & Schenker, New York, New York, by *David Schenker,* for North American Light & Power Company and its subsidiary companies.

This proceeding under Section 11(b)(1) of the Public Utility Holding Company Act of 1935 was instituted by a 236
notice of and order for hearing issued by the Commission on March 8, 1940, and duly served, naming as respondents The North American Company (hereinafter sometimes referred to as "North American") and its subsidiary companies.[1] This order, which was based upon an examination by the Commission of the holding company systems of North American and its subsidiaries, set forth various factual allegations and stated further that it appeared to the Commission that:

> "The holding company system of The North American 237
> Company is not confined in its operations to those of a single integrated public utility system within the meaning of the Act, and to such other businesses as are reasonably incidental, economically necessary or appropriate to the operations of such integrated public utility system."

The respondents were ordered to answer, "admitting, denying, or otherwise explaining their respective positions" as to the allegations made. The order further provided:

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[1]Appendix A sets forth the names of these subsidiaries, the states of their organization and the nature of their business.

"Any such answer may include a statement of the claim of the respondents or any of them as to (a) the action, if any, which is necessary and should be required to be taken by any of the respondents (including the divestment of control, securities or other assets), to limit the operations of each of the registered holding companies hereinbefore named to a single integrated public-utility system and to such other businesses as are reasonably incidental, or economically necessary or appropriate to the operations of such integrated public-utility system; (b) the extent to which any of said respondents which
239 is a registered holding company should be permitted to control one or more additional integrated public-utility systems as may meet the requirements of Clauses (A), (B) and (C) of Section 11(b)(1) of the Act; and (c) the extent to which any of said respondents should be permitted to retain an interest in any business (other than the business of a public-utility company as such) as provided by Section 11(b)(1) of the Act. The answer of any respondent which is a registered holding company may, if such respondent so desires, state that such respondent proposes and is prepared to take such action as will cause it to cease to be a holding company within the meaning of the Act, together with a description of
240 such action and the time within which it proposes to take such action."

North American filed its answer on May 16, 1940. With minor exceptions, the factual allegations of the order of March 8 were admitted. However, it was claimed that the Act was so "vague and uncertain" that the respondent had no knowledge or information sufficient to form a belief as to what constitutes a single integrated public utility system and such other businesses as may be retained thereunder. Section 11(b)(1), and other sections of the Act implemen-

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tary thereto, were alleged to be unconstitutional.[2] The answer also set forth a program of proposed action modifying the system in some respects. The proposed program contemplated, *inter alia*, the retention by North American of Union Electric Company of Missouri, one of North American's principal subsidiaries, and use of the proceeds of liquidation of other holdings for the acquisition of properties which could be integrated with the properties of Union Electric. It was stated that this program was based "only upon the hypothesis of voluntary action by the respondent and shall not be construed as restricting the issues otherwise arising in this proceeding."

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The admitted subsidiaries of North American also filed answers, almost identical in form, admitting, with minor exceptions, the factual allegations in our order of March 8, and raising issues similar to those raised in North American's answer.

On June 7, 1940, North American moved to have the proceedings held in abeyance pending voluntary fulfillment of the program set forth in its answer, and until the Commission made investigations, studies, and public recommen-

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[2]We have repeatedly expressed the view that we have no authority to pass on the constitutionality of the legislation which we administer; we must proceed upon the assumption that the Act is constitutional unless and until a court in an appropriate proceeding declares otherwise. *Engineers Public Service Company*, 9 S. E. C. —— (1941), Holding Company Act Release No. 2897; *International Utilities Corporation*, 10 S. E. C. —— (1941), Holding Company Act Release No. 3047. See also *Panitz* v. *District of Columbia*, 112 F. (2d) 39 (App. D. C. 1940); *Walston & Co.*, 5 S. E. C. 112, 113 (1939); *J. A. Sisto & Co.*, 7 S. E. 647, 653 (1940). Counsel appear to recognize this principle and we assume that the question of constitutionality has been raised here only for the purpose of preserving it in the event of any possible judicial review.

dations under Section 30 of the Act. On June 18 North American moved for a dismissal of the proceedings, basing its motion on the argument that the Commission is without power to issue an order instituting a proceeding under Section 11(b)(1) of the Act until it has made investigations, studies, and public recommendations under Section 30 of the Act, and further alleging that the notice and order instituting these proceedings before studies and recommendations were made under that section would deprive respondents of "property without due process of law in violation of the Fifth Amendment to the Constitution of the United States."

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Both motions were denied.[3]

Upon denial of the application of The Detroit Edison Company under Section 2(a)(8) of the Act for an order

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[3]Somewhat similar motions were filed at about this same time in various proceedings under Section 11(b)(1) involving other systems. In disposing of such motions, we directed that the notices served in such cases be supplemented by a more detailed statement of the Commission's tentative conclusions with respect to the action which "the Commission has tentatively concluded to be necessary under the provisions of Section 11(b)(1)." *See, e.g., The United Gas Improvement Company, et al.*, 7 S. E. C. 341 (1940); *The Commonwealth & Southern Corporation, et al.*, 7 S. E. C. 369 (1940); *Engineers Public Service Company, et al.*, 7 S. E. C. 371 (1940). However, it appears that in this case the respondents did not desire any such supplemental statement of the Commission's tentative conclusions as to what action the Commission tentatively believed necessary for the North American system under Section 11(b)(1). Rather, it appears that respondents' motion was based on the theory that the Commission is required to make a general survey and general recommendations with respect to the entire public utility industry before instituting any specific proceeding under Section 11(b)(1). Our views on the issues thus raised under Section 30 of the Act are set forth at length in an opinion to be issued shortly in the proceeding under Section 11(b)(1) with respect to The Commonwealth & Southern Corporation, et al.

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declaring it not to be a subsidiary of North American,[4] we issued, on August 12, 1940, a supplementary notice and order naming that company and its subsidiaries as respondents. The Detroit Edison Company answered both the original and supplementary orders.

Pacific Gas and Electric Company, whose application for an order declaring it not to be a subsidiary of North American was then pending, filed a separate and supplemental answer to the order of March 8. The application for a declaration that it is not a subsidiary of North American was denied on September 11, 1941.[5]

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On April 9, 1941, counsel for North American moved that the proceeding be dismissed as to certain subsidiaries on the ground that they had been dissolved, or that North American no longer had any interest in them. No objection has been made to this motion, and we think it may properly be, and it is hereby, granted.[6]

Requests for leave to intervene filed by the Public Service Commission of the State of Wisconsin and the Public Utilities Commission of the District of Columbia, the States of Delaware and Maine were granted. After the hearings herein

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[4]*The Detroit Edison Company*, 7 S. E. C. 968 (1940). A petition for review of our order was denied in *The Detroit Edison Company* v. *Securities and Exchange Commission*, 119 F. (2d) 730 (C. C. A. 6th, 1941). Certiorari was denied in 62 S. Ct. 105 (1941).

[5]*Pacific Gas and Electric Company*, 9 S. E. C. ——, Holding Company Act Release No. 2988. A petition for review of our order is pending in the Circuit Court of Appeals for the Ninth Circuit.

[6]The companies as to which this motion relates are Washington and Glen Echo Railroad Company, St. Louis and East St. Louis Electric Railway Company, Wired Radio, Inc., Wired Rediffusion Developments, Ltd., St. Charles Electric Light and Power Company, Lakeside Light and Power Company, Wisconsin General Railway Company, Bloomington and Normal Railway, Electric and Heating Company, Decatur Light, Heat and Power Company, Elkhart Electric Light Company, Chicago and Electric Valley Railroad Company.

were terminated, the City of Jacksonville, Illinois, served by Illinois Iowa Power Company, requested and was granted leave to intervene and present additional evidence subject to reply by respondents.

Hearings were begun on June 21, 1940, and terminated on April 15, 1941. In this period the record was developed to present a detailed description of the holding company systems of North American and its subsidiaries. Requested findings and briefs were filed[7] and we heard argument.

251 *The North American Company and Its Subsidiaries*—North American is the top holding company in a system containing 80 companies which operate in New York, Maryland, the District of Columbia, Virginia, Ohio, Michigan, Wisconsin, Illinois, Iowa, Missouri, Kansas, Nebraska, Minnesota, Texas, Oklahoma, South Dakota, Kentucky, and California. The businesses engaged in by system companies include those of holding companies, electric utilities, gas utilities, natural gas production and transmission, steam and hot water heating, water supply, urban, interurban and railroad transportation, terminal and warehousing, real estate, coal mining, ice manufacturing and distribution, trucking, parking
252 lot and filling station operations, meter servicing, heavy appliance design and manufacture, amusement park operations, investment companies, oil drilling and gasoline extracting.

Electric utility operations are conducted by system companies in the District of Columbia, Maryland, Virginia, Ohio, Michigan, Wisconsin, Illinois, Iowa, Missouri, Kansas,

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[7]North American Light & Power Company (hereinafter sometimes called "Light & Power"), a subsidiary of North American and a registered holding company, filed a separate request for findings and a separate brief, on behalf of itself and its subsidiaries.

and California. Appendix B attached hereto conveys some idea of the magnitude of the system's electric operations alone. Excluding The Detroit Edison Company and Pacific Gas and Electric Company,[8] it shows that approximately 64,700 square miles of territory, with an approximate population of 6,500,000 persons, and an aggregate of 1,700,000 customers, are served. The addition of The Detroit Edison Company increases the total population of the areas served to 2,580,000 persons, yielding a total of 9,080,000.

North American system companies render gas service 254
in the States of Iowa, Missouri, Nebraska, Minnesota, Illinois, Kansas, Wisconsin, Michigan, and California.

The consolidated balance sheet of North American and subsidiaries, attached hereto as Appendix C, states the assets of the system at $957,063,677, as of December 31, 1940. Appendix C also contains a consolidated income statement of North American and its subsidiaries as of the same date.[9]

Through the ownership of securities, directly and indirectly, of the companies in its system, North American controls an empire whose aggregate value is stated at a figure 255
in excess of $2,300,000,000.

A chart of the system, showing the corporate relationships of companies therein and the percentages of voting

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[8]As has been indicated, at the date of the institution of this proceeding, applications were pending under Section 2(a)(8) for orders declaring The Detroit Edison Company and Pacific Gas and Electric Company not to be subsidiaries of North American; consequently, these companies and their subsidiaries were excluded in many of the computations made with respect to the extent of the operations of the North American system.

[9]It should be noted that the policy of North American is to include in its consolidated financial statements only subsidiary companies in which it holds directly or through subsidiaries voting control and 75% or more of the common stock.

power held by North American and its subholding companies, is attached as Appendix D.

Appendix E is a map showing the location of the electric service territories of the system.

Appendix F is a map showing the location of gas operations of the system.

Appendix G is a map showing the distances of various focal points in the areas served from the central offices of North American at 60 Broadway, New York City .

257 It is to this system that we must now apply the standards of Section 11(b)(1). That section provides that it shall be the duty of the Commission, as soon as practicable after January 1, 1938:

> "(1) To require by order, after notice and opportunity for hearing, that each registered holding company, and each subsidiary thereof, shall take such action as the Commission shall find necessary to limit the operations of the holding-company system of which such company is a part to a single integrated public-utility system, and to such other businesses as are reasonably incidental, or economically necessary or appropriate to the operations of such integrated public-utility system: *Provided, however,* That the Commission shall permit a registered holding company to continue to control one or more additional integrated public-utility systems, if, after notice and opportunity for hearing, it finds that—
>
> "(A) Each of such additional systems cannot be operated as an independent system without the loss of substantial economies which can be secured by the retention of control by such holding company of such system;
>
> "(B) All of such additional systems are located in one State, or in adjoining States, or in a contiguous foreign country; and

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"(C) The continued combination of such systems under the control of such holding company is not so large (considering the state of the art and the area or region affected) as to impair the advantages of localized management, efficient operation, or the effectiveness of regulation.

"The Commission may permit as reasonably incidental, or economically necessary or appropriate to the operations of one or more integrated public-utility systems the retention of an interest in any business (other than the business of a public-utility company as such) which the 260
Commission shall find necessary or appropriate in the public interest or for the protection of investors or consumers and not detrimental to the proper functioning of such system or systems."

This opinion will deal not only with the holding company system of North American itself, but also with the status under Section 11(b)(1) of each holding company system headed by subsidiaries of North American (except for the holding company system headed by Light & Power) which are themselves registered holding companies. Subsequent to the closing of the record herein and pursuant to proceed- 261
ings under Section 11(b)(2) of the Act, we ordered the dissolution of Light & Power. 10 S. E. C. —— (1941), Holding Company Act Release No. 3233. We assume that Light & Power will be dissolved in accordance with our order and that there will no longer be a holding company system headed by Light & Power. Consequently, any discussion of the requirements of Section 11(b)(1) as they affect the Light & Power system would be academic. However, the dissolution of Light & Power will not *per se* affect the impact of Section 11(b)(1) on the holding company systems headed by subsidiaries of Light & Power which are themselves regis-

tered holding companies. Those subsidiaries are respondents in this proceeding and, accordingly, we must order them and the holding company systems which they head to comply with the requirements of Section 11(b)(1).

The holding company systems to be considered, in turn, are headed by the following registered holding companies (which are listed with appropriate indentations to indicate their relationship to North American and to one another):

I The North American Company

263 II Union Electric Company of Missouri

III Washington Railway and Electric Company

IV Washington and Rockville Railway Company of Montgomery County

(North American Light & Power Company)

V Northern Natural Gas Company

VI Illinois Traction Company

VII Illinois Iowa Power Company

VIII Des Moines Electric Light Company

I. The Holding Company System of The North American Company

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A. *The Principal System*—The initial problem faced in the determination of what "one or more additional integrated public-utility systems" the Commission "shall permit a registered holding company to continue to control" in addition to its operation of "a single integrated public-utility system" is the determination of what the "single" or "principal" system shall be. North American has insisted on its right to choose the principal system, but it has also insisted that the Act "does not require, either expressly or by implication, that the holding company designate which of the

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systems shall be its principal system." Although it has had adequate opportunity, and although it has been requested to do so on several occasions, North American has not yet expressly stated its choice of a principal system, basing its failure to do so on the contention that it should be free to dispose of its non-retainable properties "as circumstances permit" without being "bound in advance to determine which system would be retained." We are requested to issue an alternative order, for which "precedent" is said to be found in the Section 11(b)(1) proceedings relating to Engi-
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neers Public Service Company[10] and Commonwealth & Southern Corporation.[11]

We do not believe an alternative order is necessary, nor do we think that it would be appropriate to a disposition "as soon as practicable" or the issues here raised.

The procedure of alternative findings in the preliminary stages of the *Engineers Public Service Company* and *Commonwealth and Southern Corporation* cases was adopted because, under the particular circumstances there presented, it did not appear that such procedure would produce any substantial complications or result in any material delay.
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But in this case, where there are eight subsidiary holding company systems under North American, the combinations necessary in the making of findings under the (A), (B), (C), and "incidental business" standards, and in the issuance of alternative orders, would lead to extreme complications. Moreover, as distinguished from the fact that the alternative finding procedure adopted in the two cases cited was utilized only in the intermediate stages of those proceedings, this

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[10] 9 S. E. C. —— (1941), Holding Company Act Release No. 2897.

[11] Holding Company Act Release No. 2626 (1941).

case has now reached the stage where hearings have been completed and where our findings and order can be based on a record presented to us as full and complete. Frequent calls have been made upon North American during the course of the proceeding from service of our original order of March 8, 1940, through the hearings and at oral argument, but it has refused to express any choice of a principal system. There has been little point to the labor of considering what purports to be a complete record if we are now merely to await the pleasure of North American before disposing of
269 the issues. Nor can we disregard the fact that the statute makes it the "duty" of the Commission to require compliance with Section 11(b) "as soon as practicable after January 1, 1938."

Accordingly, in our opinion and order we have taken the integrated electric system operated by Union Electric Company of Missouri and its subsidiaries (the Union group) as the "principal system" retainable by North American. Our reasons for basing our opinion and order on retention of the Union group as the "principal system" are (1) the indi-
270 cation by North American that it would prefer that choice, (2) we would regard the retention as appropriate if called upon to pass upon the choice of this system by North American.

(1) North American has, on several occasions, indicated that, if required to choose a principal system, it would choose the Union group. In the tentative program set forth in its answer, it contemplated retention of its "major investment" in the Union group, and use of the proceeds of liquidation of other holdings for the acquisition of properties which could be "integrated" with the Union group system. Its counsel, in oral argument, stated, as an "educated guess," that North American would choose to retain the Union group

as the principal system if it were required to make an election.

(2) We would regard as appropriate the choice of the Union electric utility system as North American's principal system. As of July 31, 1940, Union Electric Company of Missouri had the following capitalization:

First Mortgage and Collateral Trust Bonds, 3¾%, due 1962	$80,000,000
3% Notes, due 1942	15,000,000
Advances on open account from subsidiaries.	6,800,000
$5 Cumulative Preferred Stock, no par	13,000,000
Common Stock, no par	52,500,000
Surplus	10,200,000

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North American calculates its equity in the assets of the Union system (including surplus) at 33.4% of the total capitalization. It holds all of the common stock, representing 25.81% of the total capitalization. This stock was carried on its books, at December 31, 1940, at $51,840,780. Union Electric Company of Missouri in turn has the following interests in the total capitalization, including surplus, of its principal operating subsidiaries:

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Union Electric Company of Illinois	100%
Cupples Station, Light, Heat and Power Co.	100%
Mississippi River Power Company	44.53%
Iowa Union Electric Company	63.29%

Dividends received by North American from Union of Missouri for 1940 amounted to approximately $5,737,500, the largest amount paid up, in that year, by any of its subsidiaries. North American's investment in the Union system began in 1901. There have thus been 40 years of investment contact with the Union properties.

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Union of Missouri, together with the above-named subsidiaries, operates an electric utility system in the States of Missouri, Illinois, and Iowa. These operations are carried on in an area centering around St. Louis in the eastern part of Missouri, in adjoining territory in Illinois surrounding the City of East St. Louis, in an area surrounding a large hydroelectric plant at Keokuk, Iowa, and in and around a hydro plant at Osage, Missouri.

The total area served by the group contains 3,100 square miles and a population of 1,500,000. As of May 31, 1940, the
275 group served a total of 351,565 customers with electricity and, in the year ending on that date, produced a total of 2,579,520,155 kwh of current. Of a total name plate production capacity rating of 722,500 kw, 237,000 kw are hydro and 485,500 kw are steam.

All production facilities for electric operations of the group are at present physically interconnected and centrally controlled, and are coordinated without reference to differences in corporate ownership. Transmission line connections between generating stations make it possible to operate the system as an entity—coordinating, as economy and neces-
276 sity require, the hydro and steam production units. The group owns transmission, sub-transmission, and distribution lines and sub-stations for the carrying of its produced current.

The operations in Missouri are subject to regulation by the Missouri Public Service Commission, and in Illinois by the Illinois Commerce Commission. Iowa Union Electric Company, which operates in Iowa, is subject to municipal rate regulation.

We find that these electric operations of the Union group constitute those of a single integrated electric utility system

within the meaning of the Act, and that the retention thereof as the principal system of North American satisfies the terms of Section 11(b)(1).

Although, for the reasons indicated, we have based our opinion and order on retention of the electric utility operations of the Union group as North American's principal system, we have decided to afford North American a further opportunity to present argument as to whether it desires any system other than the electric utility operations of the Union group as its principal system. Accordingly, we shall entertain a request for further argument in this respect and 278
our order, insofar as it requires divestment by North American, will be subject to modification if, after presentation of further argument, such modification appears necessary.

B. *The Additional Systems Retainable by North American*—Excluding subsidiaries of Light & Power, North American subsidiaries operate electric, gas, and other facilities in five distinct areas in addition to the St. Louis area of the Union group. These are the Washington area (including the District of Columbia and adjacent Maryland and Virginia territory) in which subsidiaries of Washington Railway and 279
Electric Company operate; the Cleveland area (including that city and surrounding territory in northeast Ohio) in which Cleveland Electric Illuminating Company, a direct subsidiary of North American, operates; the Detroit area (including a large area surrounding that city in southeast Michigan) in which The Detroit Edison Company operates; the Wisconsin-Michigan region (including three areas, two centering respectively around Milwaukee in southeast Wisconsin and Appleton in east central Wisconsin, and one embracing a large part of the northern peninsula of Michigan

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and running south into Wisconsin) in which the Wisconsin Electric Power, Wisconsin Gas and Electric, and Wisconsin-Michigan companies (all direct subsidiaries of North American)[12] operate; and the California area, in which Pacific Gas and Electric Company operates.

Counsel for the Public Utilities Division has conceded, and we find, that the electric operations in each of the Washington, Cleveland, Wisconsin-Michigan, and Detroit areas constitute those of a single integrated public utility system within the meaning of the Act.

281 It is of course clear that Section 11(b)(1) requires that a registered holding company divest itself of those of its utility subsidiaries which are not retainable as part of the holding company's principal system or as part of an additional system or systems meeting the requirements of the (A), (B), and (C) clauses of Section 11(b)(1). *The United Gas Improvement Company and Its Subsidiary Companies*, 9 S. E. C. —— (1941), Holding Company Act Release No. 2692, p. 11. It is clear, too, that the standards of the (A), (B), and (C) clauses for additional systems are in the conjunctive and that each must be satisfied to permit retention

282 of additional systems.

North American claims that under the (A), (B), and (C) standards, it may retain the Union, Wisconsin-Michigan, and Cleveland systems. It has made no claim that these standards would permit the retention of any of the other systems operated by its subsidiaries.

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[12]Since the closing of this record, we have approved transactions whereby North American has transferred its holding in the Wisconsin Gas and Electric Company and Wisconsin-Michigan Power Company to Wisconsin Electric Power Company, 9 S. E. C. —— (1941), Holding Company Act Release No. 2950.

For the reasons set forth below, we do not believe that the standards of the (A), (B), and (C) clauses of Section 11(b)(1) permit the retention of any of these systems as "additional systems" to the Union group. We think that North American's claim is based on a misconstruction of the geographical limitations of clause (B), of the meaning of the phrase "substantial economies" in clause (A), and of the limitations of clause (C).

1. *The Geographical Limitations of Section 11(b)(1)(B)* —The meaning of clause (B) was the subject of extended consideration in the *Engineers Public Service Company*[13] case. 284
We there concluded that under clause (B) (even assuming compliance with clauses (A) and (C)) additional systems could be retained only if they are:

> "located in a State in which such single system [*i.e.*, the 'principal' system] operates, or in States adjoining such a State, or in a foreign country contiguous thereto."

The electric operations of the Union group, which we have taken as the principal system, are carried on in Missouri, Illinois, and Iowa. Clause (B), therefore, clearly bars 285
the retention of the Cleveland, Washington, and California utility operations as additional systems. Whether the integrated electric utility system of the Wisconsin-Michigan companies can be retained under clause (B) as a system additional to the Union system depends on whether the former system is "located . . . in States adjoining" a State in which the Union group operates. Of course, Wisconsin and Illinois have common boundaries; but most maps leave ambiguous the status of Michigan and Illinois as "adjoining." The latter

[13] 9 S. E. C. —— (1941), Holding Company Act Release No. 2897.

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two states are, apparently, completely separated by Wisconsin, Indiana, and Lake Michigan. They "adjoin" only if their boundaries in fact meet in Lake Michigan. We have concluded that Illinois and Michigan may properly be regarded as "adjoining" by reason of common boundary lines.

"Illinois was admitted as a State with its present boundaries by resolution approved December 3, 1818 (3 Stat. L. 536). The enabling act defines these boundaries as follows: (3 Stat. L. 429)

287 "The said State shall consist of all the territory included within the following boundaries, to wit: Beginning at the mouth of the Wabash river; thence up the same and with the line of Indiana, to the northwest corner of said state; thence, east with the line of the same state, to the middle of Lake Michigan; thence north along the *middle of said lake* to the north latitude forty-two degrees thirty minutes; thence west to the middle of the Mississippi river; and thence down along the middle of that river to its confluence with the Ohio River; and thence up the latter river along its northwestern shore to the beginning."[14] (Emphasis supplied.)

* * *

288 "Michigan was admitted to the Union on January 26, 1837 (5 Stat. L. 144) with the proviso and boundaries given in the enabling act as follows: (5 Stat. L. 49)

" . . . thence (from the main channel of the Menomonie River) . . . to the center of the most usual ship channel of the Green bay of Lake Michigan; thence through the center of the most usual ship channel of the said bay to the *middle of Lake Michigan;* thence through the *middle of Lake Michigan*, to the northern boundary of the State of Indiana, as that line was established by

[14]United States Department of the Interior, Geological Survey Bulletin 817, "Boundaries, Areas, Geographic Centers, and Altitudes of the United States and the Several States" (2nd Ed.), p. 193.

the act of Congress of the nineteenth of April, eighteen hundred and sixteen; thence due east, with the north boundary line of the said State of Indiana, to the north-east corner thereof; and thence, south, with the east boundary line of Indiana to the place of beginning."[15] (Emphasis supplied.)

Since we find that Michigan and Wisconsin adjoin Illinois, a State in which the Union group operates, we hold that the retention of the Wisconsin-Michigan system would not be barred by clause (B).[16]

290 North American's counsel has attempted to justify the retention of the Cleveland properties on the ground that:

"Wisconsin adjoins Illinois—we have properties in Wisconsin; Michigan adjoins Wisconsin—we have properties in Michigan, in the northern peninsula there; and we have properties in Ohio which adjoin [*sic*] Michigan." (Oral Argument, p. 58).

This might be characterized as the "chain" theory of clause (B). Carried to its logical conclusion, it would permit the retention of properties from one coast of the country to the other, as long as the holding company retains property in each State of the chain of States. 291 We think that the invalidity of this contention is too apparent to require further comment here. See our discussion of clause (B) in the *Engineers Public Service Company* case (*supra*).

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[15] *Id.*, p. 197.

[16] By the same reasoning, clause (B) would not bar retention of the Detroit Edison system as an additional system. However, North American has not claimed that such retention is permissible under the standards of clauses (A), (B), and (C), and has not attempted to prove compliance with the standards of clauses (A) and (C), but has argued that its "investment" in that company may be retained on other grounds. This problem will be dealt with later in this opinion.

We conclude, therefore, that, based on the electric utility operations of the Union group as North American's principal system, clause (B) bars retention of the systems of the Cleveland, Washington, and California companies. It does not bar retention of the integrated systems of the Wisconsin-Michigan group or of The Detroit Edison Company.[17]

Nevertheless, we have concluded that retention of the Wisconsin-Michigan or Detroit properties as additional systems to that of the Union group is not permissible under the standards of clauses (A) and (C).

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2. *The Standard of "Substantial Economies" in Section 11(b)(1)(A)*—We cannot permit the retention of "additional systems" by a registered holding company unless we find that the standards of clauses (B) and (C) have been satisfied and that, in accordance with clause (A):

> "Each of such additional systems cannot be operated as an independent system without the loss of substantial economies which can be secured by the retention of control by such holding company of such system."

294 The phrase "substantial economies" in clause (A) refers to economies which may be secured by the systems themselves rather than to economies which may be secured by the holding company. This was the clear intent of Congress (see H. R. Rep. No. 1903, 74th Cong., 1st Sess. (1935), p. 71) and, in fact, argument by all counsel in this case has been premised on this view.

Counsel for North American has, however, attempted to minimize the requirement of "substantial economies" and

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[17] The question of the retention of integrated systems or properties of subsidiaries of Light & Power as additional to the Union system is referred to in note 19, *infra*.

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to argue that the phrase means only something more than "purely nominal" or "*de minimis*" economies. In support of this proposition, counsel has cited cases involving will contests, taxation, evidence, and exemption from the Act under Section 3(a)(1).

We think that the cases which have been cited are of little aid in the interpretation of the phrase "substantial economies" and that the phrase must, rather, be construed in the light of its context and the policy of the Act. The normal and usual meaning of the word "substantial" is a meaning connoting "important". And we think that this normal and usual meaning is compelled here. The degree of importance must be measured against the vital policy to which clause (A) is an exception, *i.e.*, the policy of limiting holding companies to the operation of a single integrated public utility system.

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Some light on the background against which this clause was drafted may be found in certain remarks made by Senator Wheeler in interpreting the action taken by the Conference Committee on the legislation.

> "After considerable discussion the Senate conferees concluded that the furthest concession they could make would be to permit the Commission to allow a holding company to control more than one integrated system if the additional systems were in the same region as the principal system *and were so small that they were incapable of independent economical operation . . .*"[18]

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These remarks reinforce the conclusion that clause (A) was intended as a significant standard to be applied only where there was a strong reason for an exception to the general policy of permitting retention of only one integrated

[18]79 Cong. Rec. 14479. (Emphasis supplied.)

system. They are certainly not consistent with the suggestion of counsel for North American which, in effect, urges us to disregard the word "substantial." We conclude, therefore, that to warrant an exception to the limitation of a holding company system to a single integrated public utility system and to satisfy the standard of clause (A), respondent must show that important economies will be lost if the holding company's control of such system is severed.

On the basis of the record before us, we cannot find that
299 "substantial economies" would be lost by the separation from the holding company relationship of any of the electric utility systems now operated by subsidiaries of North American.[19]

Cogent support for this conclusion is found in North American's stated policy. It has, according to its counsel, operated for more than 20 years on the theory that "each operating group should have a strong localized management, which was aided by the advice and counsel of the holding company, to avoid the dangers of local stagnation."

As nearly as can be determined from the record in this
300 case, North American leaves operations and operational pol-

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[19]The retention of gas systems under the standards of clauses (A) and (C) is discussed *infra*, p. 23.

The utility properties of subsidiaries of Light & Power are, of course, part of the North American system. North American has presented no evidence or argument directed to the question whether any of these utility properties can be retained under the Act along with the Union system and since we cannot, on the basis of the record, find that such properties may be retained by North American as part of its principal system or as an additional system or systems meeting the (A), (B), (C) standards, we must order their divestment. However, our order requiring North American to divest itself of its interest in Light & Power and Light & Power's subsidiaries does not foreclose the filing of applications in the future looking to the possible integration of any of these properties with the retainable properties of North American.

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icy to the managements of its subsidiaries. It certainly can not claim that, insofar as the day-to-day operation of a public utility business is concerned, independence of the companies in its system will cause the loss of substantial economies.

North American rests its arguments under clause (A) on other grounds. The bases for its contentions in this respect are alleged to be (a) its assistance to subsidiaries in their financing, (b) its advisory and consultative facilities, and (c) the benefits from its intercompany committees.

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(a) *Assistance in financing*—North American's participation in and domination over financing matters of its subsidiaries has, in the past, constituted North American's most important activity in its subsidiaries' affairs. Operating heads of its subsidiaries have testified to the completeness with which North American takes over the planning and handling of securities flotations. One by one they have disclaimed the ability to build, within their own groups, talent to meet their local financial problems. They have claimed that such talent would be expensive and that it would be wasted because of the infrequency of its exercise, if limited to individual groups.

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While we cannot accept the premise that the problems of financing independent public utility companies are too complicated and difficult for the average local management of average business capability, we are willing to make that assumption *arguendo* in testing North American's claim that it would be uneconomical for any of the sub-holding company systems to employ officers and a staff capable of handling financial problems.

In assessing this claim, the statements of North American counsel in argument before us are pertinent:

"North American's subsidiaries illustrate the tremendous growth problem and need for capital. Thus, the Wisconsin Group which had outstanding $15,764,000 in securities in 1900, rose to $55,670,000 in 1920 and more than $156,000,000 by 1940. The St. Louis Group, with a capitalization of $8,200,000 in 1904, rose to $40,878,000 in 1920 and $193,605,000 in 1940. Cleveland, when control was acquired by North American in 1922, had a total plant account of $41,200,000 which increased to $128,000,000 by 1930 and $148,200,000 in 1940."

305 The Cleveland Electric Illuminating Company has, to date, issued 34 issues of debt securities, 13 issues of preferred stock, and 29 issues of common stock. The nature and amounts of the securities of the three Wisconsin-Michigan companies have fluctuated greatly year by year. The testimony on behalf of the Union group indicates that its financing problems are also of "considerable magnitude." North American has been forced to concede the magnitude of Union's financing. It would seem, in view of the contention that where there is little financing it is not economical to maintain a financial staff, that Union should have such a
306 staff because of its volume of financing. But here it is argued, somewhat inconsistently with the argument in respect of the other groups, that the maintenance of a local financing staff for the Union group would involve considerable expense and would not, for that reason, be advisable.

We think that North American's argument is, in fact, self-defeating. The normal development of a management faced with financing problems recurring as often as they do in the utility industry would appear to be toward familiarity with the problems involved. If we accept the testimony before us, it may well be the fact that North American's

usurpation of the handling of its subsidiaries' financing problems has retarded that development in the managements of its subsidiaries.[20] But we are by no means convinced that it would be uneconomical for the subsidiary systems to maintain a personnel equipped to deal with their own local financial problems. And if it be the fact that the present managements of the system companies are incapable of holding their own in financial negotiations, independence will permit stockholders in those companies to substitute capable management.

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Although sufficient motives for active intervention in financing by North American, other than a desire to aid and assist its subsidiaries, may exist,[21] we are not concerned with them here. We hold that it has nowhere been shown that such financing could not have been done, and done without the loss of substantial economies, without North American's participation.[22]

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[20]The president of Potomac Electric Power Company, principal operating subsidiary of Washington Railway and Electric Company, was forced, by reason of his denial of knowledge of financial matters, to admit that he was not competent to judge the success of his company in securities flotations effected with the aid of North American 309 as compared with companies outside the system.

[21]The importance and value to a holding company of being able to dominate its subsidiaries' financing and to control the flow, through underwriting channels, of millions of dollars of securities are too obvious to need discussion.

[22]A questionable exception is the evidence bearing on the insistence of Edwin Gruhl in 1932 (while he was president of North American) that bonds to finance the Wisconsin-Michigan properties be issued to the extent of $5,000,000 over the amount then needed. It was stated that the money was used to advantage in building a generating plant at low cost during the depression and that Gruhl's action was based on "great vision."

Refundings at lower interest rates within the past few years, cited as evidence of North American's aid, have certainly not been peculiar to the North American system. It is common knowledge that public utilities, as well as industry as a whole, have been enabled to scale down interest by advantageous refundings.

The further argument has been made that severance of North American's control would deprive the subsidiary systems of an important source of financing. In support of this argument, North American's counsel has cited the testimony of a vice president of Wisconsin Electric Power Company to the effect that:

> ". . . the North American Company, over the years, has been our financial backer and as a result we have been freer to devote our major attention to other phases of the business."

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Advances by North American to its subsidiaries are cited to reinforce the argument.

Consideration of the record in this respect leaves us in no doubt, however, that severance of the subsidiary systems from North American would not deprive them of any "substantial economies" respecting the borrowing of money. In support of the above-quoted testimony the witness cited advances by North American to Wisconsin Electric Power Company in 1920 carrying interest at 6½%. There have been no advances from North American to its subsidiaries
312 since 1935. In fact, there were substantial periods when North American borrowed from its subsidiaries for the purpose of lending money in the call-money market.[23] Thus, Union Electric Company of Missouri at one time had balances as high as $9,258,000 outstanding against North American, and in 1932, Wisconsin Electric Power Company had a balance due from North American in the amount of $3,429,000.[24] Moreover, whereas interest rates paid by subsidiaries to North American for sums borrowed during the

[23]This practice was justified as "assistance" to subsidiaries "in earning some return on that money."

[24]In 1929 this balance was $8,510,000.

period from 1915 to 1930 varied from 4½% to 8⅛%, North American paid interest to its subsidiaries at a rate generally lower than current call-money rates. We certainly cannot find that the cessation of this credit interflow would result in the loss of "substantial economies" to the subsidiary companies.

(b) *Advisory and consultative facilities*—The operating heads of various North American subsidiaries have acknowledged indebtedness to North American for the advice and consultation afforded by its staff on management problems. 314
It does appear that there has been some interchange of ideas with respect to budgeting, tax matters, major installations, and accounting matters. However, it should be noted that North American's entire operating division consists of eight persons, including three clerks, two engineers, a rate specialist, and two executives who are not engineers.

There is nothing in the record to indicate that a cessation of this advice and consultation would cause the loss of any substantial economies to subsidiary systems. North American, it is claimed, holds itself open for advice and consultation "to avoid the dangers of local stagnation." This claim 315
may be measured against the view uttered by one of North American's own witnesses:

> "In the electrical industry as a whole, I refer to the utility industry primarily, there is a great freedom of interchange of ideas, facilities and information."

We may assume that the character of the electric utility industry will not change so drastically in the future as to permit companies which have been severed from the North American system to fall into "local stagnation."

(c) *The intercompany committees*—North American subsidiaries (other than Light & Power and its subsidiaries, and Pacific Gas and Electric Company) have representation on three system committees which serve as a clearing house for technical and accounting information. The record indicates that the operation of these committees has been of some benefit to the participating companies. The same witnesses who testified to the value of the committees also testified that the committees could not survive a rupture in the affiliated status of the members. We are unable to under-
317 stand why—if the value of the committees is so patent—the self-interest of the participating companies would not compel their retention. We see no obstacle to the retention of such committees outside the North American system and we think that their dissolution would only be proof of the insubstantiality of the "economies" resulting from them. We cannot find, therefore, that by reason of the intercompany committees substantial economies will be lost by the severance of North American's control of the subsidiary systems.

3. *The Standard of Size in Section 11(b)(1)(C)*—Were
318 North American to satisfy all of the limitations in clauses (A) and (B) with respect to the electric utility systems which it claims it can keep as additional systems to the Union group under the (A), (B), and (C) clauses, retention of these systems would nevertheless not be permissible, for we cannot find that such systems meet the tests posed by clause (C).[25] A holding company cannot retain, in addition to its principal system, any other system which results in a combination of systems—

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[25]As has been stated, no attempt has been made by North American to show that any of the various subsidiary systems of Light & Power might be retained as additional systems to the Union group under the standards of clauses (A) and (C). See footnote 19, *supra*.

". . . so large (considering the state of the art and the area or region affected) as to impair the advantages of localized management, efficient operation, or the effectiveness of regulation."

The bulk of the service area of the Union group centers around St. Louis, Missouri. Such operations as it conducts in Illinois center around East St. Louis, directly across the Mississippi River from St. Louis. The Wisconsin-Michigan properties spread from the northern boundary of the United States in the Michigan Peninsula to the southeastern part of 320
Wisconsin, where the operations center around Milwaukee. The Detroit Edison Company operates in an area radiating out of Detroit, Michigan. The Cleveland properties serve an area surrounding the City of Cleveland and containing 1,700 square miles with a population of 1,500,000.

Clause (C) enjoins us to consider the "area or region" affected in determining whether the advantages of localized management, efficient operation, or the effectiveness of regulation will be impaired. We have indicated in the *Engineers Public Service Company* case, *supra*, that the singular form of the phrase "area or region" in clause (C) is material 321
in determining what additional systems are permissible under clause (B). The fact that this phrase is in the singular is material, also, in a determination of what is meant by the term "localized management" in clause (C). The language of that clause, taken together with the legislative history exhaustively commented on in the *Engineers* case, makes it apparent that an intention is manifested to prevent retention of additional systems where such retention will result in control by the same interests of unrelated properties in widely separated areas.

322 The language of clause (C) finds an almost identical counterpart in the definition of an integrated electric utility system contained in Section 2(a)(29)(A). That definition describes a system having certain physical characteristics and which is, further—

> ". . . confined in its operations to a single area or region, in one or more States, not so large as to impair (considering the state of the art and the area or region affected) the advantages of localized management, efficient operation, and the effectiveness of regulation."

323 Similar language appearing in different sections of a statute is normally to be given the same meaning.[26] The use of this similar language in Section 2(a)(29)(A) and in clause (C) of Section 11(b)(1), in our opinion, casts considerable light on the meaning of the size standards of clause (C) and would seem to indicate that similar considerations are involved in applying the size standards of clause (C) to a combination of principal and additional systems, as are involved in applying the size standards of Section 2(a)(29)(A) to determine the maximum limits of
324 a single integrated system. However, it is not necessary in this case to decide whether the Act compels such a conclusion. Viewed in any light and standing by itself, clause (C) could not be satisfied by a combination of the Union group properties with those of the Wisconsin-Michigan, Detroit Edison, or Cleveland systems.

Milwaukee and St. Louis are 285 miles apart. Detroit and St. Louis are 415 miles apart. Cleveland and St. Louis are 424 miles apart. Each of the systems operating in the

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[26] *United States* v. *Cooper Corporation, et al.*; 312 U. S. 600 (1941).

vicinity of these cities is a vast enterprise.[27] The operations of each center around a large city which dominates the life of the area surrounding it. Each is the focal point of a different "area or region," in a geographical, sociological, and operational sense.

We are not persuaded by North American's argument that the present local character of the management of its subsidiaries shows that a combination of the St. Louis, Wisconsin-Michigan, Detroit Edison, and Cleveland properties would satisfy the standards of clause (C).[28] As assured as we might be of the completeness of this localized management, it cannot be guaranteed that this policy of North American's management will remain unchanged or that the present management of North American will remain forever in power. Light & Power's policy with respect to localization of its subsidiaries' managements changed swiftly 326

[27]The Union group in 1939 sold 2,140,509,187 kwh to 249,096 customers in an area of 3,100 square miles. The consolidated capitalization of the Union group (including surplus) was $203,444,978 at December 31, 1940.

The Wisconsin-Michigan group in 1939 sold 1,194,464,505 kwh to 250,770 customers in an area of 8,289 square miles. At December 31, 1939 the book value of the electric properties alone of these companies was $140,315,612. 327

The property and plant account of The Detroit Edison Company, as of June 30, 1940, was $327,619,644 before deduction of reserves.

The Cleveland system in 1940 sold 1,841,085,543 kwh to 330,000 customers in an area of 1,700 square miles. As of December 31, 1940, the consolidated property and plant account of Cleveland Electric Illuminating Company was $148,223,464 before deduction of depreciation reserves, and $113,641,751 after such deduction.

[28]North American has stated that its unawareness of certain activities of persons connected with the management of the Union group (which activities have resulted in the recent conviction of Union Electric and its chief executive officer for wilful violation of Section 12(h) of the Public Utility Holding Company Act) illustrates the extent of its localization policies. If we accept this statement, it would seem to be persuasive evidence that North American's utility empire has grown too large for efficient management.

when North American assumed active control. So may North American's policy change with a changed management. We must, under the statute, look to size and the area or region affected, not to the policy of a particular management group, in making our determination.

For the reasons stated, we cannot find that a combination of either the Wisconsin-Michigan, the Detroit Edison properties, or the Cleveland system with the Union group would satisfy clause (C).

329 4. *The Retention of Gas Systems*—The contention is urged upon us here, as it was in the *Columbia Gas & Electric Corporation*[29] and *The United Gas Improvement Company*[30] cases, that gas and electric properties may be retained together as parts of a single integrated public utility system. That contention was considered and reconsidered at length in the above-mentioned cases, and rejected. No argument has been presented and no evidence has been adduced herein which would lead us to change our conclusion in this respect. On the authority of, and for the reasons discussed in, the *Columbia Gas* and *United Gas Improvement* cases, we hold that gas properties may be retained by North American only if such gas properties are part of an integrated gas utility system retainable as an "additional system" under the (A), (B), (C) standards of Section 11(b)(1).

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Gas facilities are operated by both Wisconsin Gas and Electric Company and Wisconsin Michigan Power Company in the Wisconsin-Michigan group. Gas operations are also

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[29] 8 S. E. C. —— (1941), Holding Company Act Release No. 2477.

[30] 9 S. E. C. —— (1941), Holding Company Act Release No. 2692.

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conducted by The Detroit Edison Company, Pacific Gas and Electric Company, certain subsidiaries of Light & Power, and the Union group. We have determined that the electric utility systems operated by the Wisconsin-Michigan companies, The Detroit Edison Company, Cleveland Electric Illuminating Company, and Pacific Gas and Electric Company,[31] cannot be retained by North American in combination with the Union group and no attempt has been made to show that any of the electric utility systems operated by any subsidiary of Light & Power can be so retained. Since such relationships as have been shown between gas and electric operations deal with the gas and electric operations of each individual group, rather than with the gas operations of one group and the electric operations of another, there is no evidence which would permit us to find that any gas properties outside the Union group territory can be retained in combination with the Union group.

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The gas operations in the Union group territory are conducted by Union Electric Company of Illinois, a subsidiary of Union Electric Company of Missouri, in Alton, Illinois; by Iowa Union Electric Company, also a subsidiary of Union Electric Company of Missouri, in Keokuk, Iowa; and by St. Louis County Gas Company, a direct subsidiary of North American, in an area surrounding the City of St. Louis. The gas operations of the three companies are located within the electric service territory of the Union group. Although the gas operations of the Iowa and Illinois companies are relatively small, the total assets of the St. Louis County

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[31]Respondents' argument with respect to retention of North American's interest in The Detroit Edison Company and Pacific Gas and Electric Company as "investments" is considered *infra*, p. 28.

Gas Company amounted at May 31, 1940, to the substantial sum of $9,944,909.

We find that the gas operations of the three companies constitute those of three integrated gas utility systems. It is clear that retention of these systems in addition to the electric operations of the Union group would satisfy clause (B). More difficult questions are presented, however, under the standards of clauses (A) and (C). Evidence has been introduced to show the use of joint personnel and facilities and close operating and managerial relationships between
335 the gas and electric operations. It has been stated that the mutual performance of meter-reading, billing, engineering, maintenance and the like, as between Union of Missouri and St. Louis County Gas, alone, results in annual savings of $230,000 per annum. There is no indication of the method by which this figure has been calculated. And, more important, there is nothing in the record from which we can compare the alleged economies resulting from use of joint personnel and facilities with the possible increased economies and efficiency which might result from the independent operation of the gas systems. Such a comparison would seem
336 to be particularly pertinent to the question presented under clause (A)—whether the gas systems cannot be operated independently "without the loss of substantial economies which can be secured by the retention of control" of these systems and the electric operations of the group by the same holding company.

In many branches of consumer use, gas and electricity are natural competitors. Especially when both operations are conducted in the same territory, joint control creates the danger that one business may be suppressed in favor of the other or be made to carry the other. Economies claimed to

result from joint operations must be measured against the possibility that independence will permit unsuppressed development and growth for both types of businesses.

We are not satisfied that this record contains an adequate exploration of the relevant evidence bearing on the question whether retention of these gas systems in addition to the electric operations of Union would satisfy the standards of clauses (A) and (C). We have therefore decided not to make any findings on this matter at this time. We shall direct that the record be reopened for the purpose of receiving further evidence bearing on the permissibility under the Act of retention of the gas operations of the Union group—including those of the St. Louis County Gas Company—in addition to the electric operations of the group. To afford respondents and our staff an opportunity to prepare for the introduction of such evidence, our order setting the date for the further hearing will contain a statement of the specific matters upon which we desire to have additional evidence presented. 338

C. *The "Other Businesses" Retainable by North American*—A registered holding company is required by Section 11(b)(1) to limit its operations to a single integrated public utility system, to such additional public utility systems as meet the standards of clauses (A), (B), and (C), and to "*such other businesses as are reasonably incidental, or economically necessary or appropriate to the operations of such integrated public-utility system . . .*" The section provides further that "*The Commission may permit as reasonably incidental, or economically necessary or appropriate to the operations of one or more integrated public-utility systems* 339

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the retention of an interest in any business (other than the business of a public-utility company as such) which the Commission shall find necessary or appropriate in the public interest or for the protection of investors or consumers and not detrimental to the proper functioning of such system or systems." (Emphasis supplied.)

North American controls directly certain companies engaged in the investment, real estate, and coal businesses. The Union group, in addition to the electric operations which we have determined may be retained by North American as
341 an integrated public utility system, also conducts heating, real estate, coal, and railway businesses. It is claimed that interests in all of these businesses may be retained under the "other business" clauses of Section 11(b)(1). North American has also argued that it may retain its interests in The Detroit Edison Company and Pacific Gas and Electric Company as "investments" under these clauses.

In the course of argument respecting retention of non-utility interests, counsel for the respondents cited the *American Water Works and Electric Company* case, 2 S. E. C. 972
342 (1937), in support of his contention that we are required to make "affirmative findings . . . that North American may retain its minority utility investments and all of the other businesses controlled within the holding company system." We think it is clear that the *American Water Works* case is not authority for the retention of all of the interests for which counsel contends. We think that it is appropriate here to define in broad outline the criteria which we believe must be considered in determining whether we can permit the retention by a public utility holding company of interests in businesses other than the electric and gas utility businesses.

If it be recalled that the Commission may permit retention of an interest in a non-utility business as "reasonably incidental, or economically necessary or appropriate" to the operations of an integrated public utility system or systems, when it finds retention of such interest to be "necessary or appropriate in the public interest or for the protection of investors or consumers and not detrimental to the proper functioning" of such a system or systems; and if it be recalled that the phrase "public interest" is used in connection with the policy of curing evils which result "when the growth 344
and extension of holding companies bears no relation to economy of management and operation or the integration and coordination of related operating properties" (Section 1(b)(4)), it becomes apparent that the historical background of the joint control of a non-utility business with a utility business has little or no bearing on the permissibility of its retention in a public utility holding company system. Interests held for a long period do not, by reason of that fact alone, achieve any relation to "economy of management and operation" or "the integration and coordination of related operating properties." Indeed, it is the very purpose 345
of Section 11(b)(1), to require the severance of those interests acquired in the course of the historical "growth and extension" of a holding company which do not satisfy the policy of the Act.

By the same token, the "substantiality and stability of income" afforded by non-utility interests is not, in and of itself, a factor warranting their retention in a public utility holding company system. Substantial and stable income might be afforded by businesses having no imaginable relationship to the economy of management and operation of integrated public utility systems. If the "other business" clauses of Section 11(b)(1) are not to be removed from

their statutory context, and if we are to give full weight to the express standards and the policy of the Act, we cannot find that any business is "reasonably incidental, or economically necessary or appropriate" to the operations of an integrated public utility system or is "not detrimental to the proper functioning" of such a system merely because it is profitable.

The same considerations apply to economies resulting from joint use of personnel. Unless the non-utility business
347 is such that resulting economies are *economies in the operation of an integrated utility system or systems,* the mere showing of economies is of little weight in determining whether the non-utility business may be retained.

With respect to many of the non-utility properties involved in this proceeding, the claim has been made—apparently as an argument in favor of permitting retention—that great difficulty would be faced and losses would be sustained in disposing of such properties in compliance with a divestment order. The difficulty of disposing of an interest frequently results from the inability to find interested pur-
348 chasers at a price which is equal to or more than the value at which such interest is carried on the books. Realistically, the sale of such properties does not always mean that a loss has been *sustained* at the time of the sale, but rather that it may have to be recognized at that time. Where it is clear that there is no market at any reasonable price and where disposition by any other method than sale is not feasible, a company which has been ordered to dispose of various interests may, under Section 11(c), request an extension of time for compliance with divestment orders.

With respect to certain non-utility interests, respondents have argued that they need show no affirmative public benefit resulting from the retention of such interests, and they have

argued, further, that we need find merely that retention of such interests is "compatible with the public interest."

To make the statutory finding which it is conceded we must make to permit retention of a non-utility interest requires, in our opinion, more than a showing that no positive harm will result from the retention. What do the phrases "public interest" and "proper functioning" of an integrated system in their context in Section 11(b)(1) mean? It is our view that they refer to the stated policy of the Act to limit the activities of public utility systems to activities related "to economy of management and operation" of the *public utility* system, and the "integration and coordination of related operating properties."[32] Compatibility with that interest, even if that is all that need be shown, requires a showing that the public interest will be furthered by retention of a non-utility interest by reason of its relation "to economy of management and operation" of a public utility system or systems or "the integration and coordination of related operating properties."[33] We cannot make the *affirmative* statutory

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[32]See Section 1(b)(4).

[33]Compare *United States* v. *Lowden*, 308 U. S. 225 (1939), where the Supreme Court was called upon to construe the phrase "public interest" as it appears in Section 5(a)(4) of the Transportation Act of 1920. In reviewing a determination of the Interstate Commerce Commission upon an application for approval of a consolidation of railroad companies, the Court said (308 U. S. at 230): 351

> "In *New York Central Securities Co.* v. *C. C. C. & St. L. Ry. Co.*, 287 U. S. 12, we pointed out that the phrase 'public interest' in this section does not refer generally to matters of public concern apart from the public interest in the maintenance of an adequate rail transportation system; *that it is used in a more restricted sense defined by reference to the purposes of the Transportation Act of 1920, of which the section is a part and which, as had been recognized in earlier opinions of this Court, sought through the exercise of the new authority given to the Commission to secure a more adequate and efficient transportation system.*" (Emphasis added.)

findings necessary to permit retention unless the record contains such a showing.

In the course of this opinion the standards of the "other business" clauses will be applied to many non-utility businesses in the North American system. We have not thought it necessary to repeat the foregoing discussion in connection with each such interest, since our comments here are intended to apply generally.

353 1. *North American's Interests in The Detroit Edison Company and Pacific Gas and Electric Company*—At the time these proceedings were instituted, applications were pending with respect to both The Detroit Edison Company and Pacific Gas and Electric Company for orders under Section 2(a)(8) of the Act declaring such companies not to be subsidiaries of North American. North American has argued that its interests in these companies represent merely "investments" and that their retention should be determined under the "other business" clauses of Section 11(b)(1).

354 However, on August 5, 1940, and September 10, 1941, respectively, we issued our findings and orders denying both of the applications under Section 2(a)(8).[34] It is clear, therefore, that both companies are subsidiaries of North American under the Act and must be regarded as such in this proceeding. Since subsidiary utility companies may be retained in a public utility holding company system *only* where such subsidiary utility companies constitute part of the "single" or any additional integrated system or systems

[34] *The Detroit Edison Company*, 7 S. E. C. 968; *Pacific Gas and Electric Company*, 9 S. E. C. , Holding Company Act Release No. 2988.

retainable by the holding company under Section 11(b)(1) (*The United Gas Improvement Company, et al.*, 9 S. E. C. (1941), Holding Company Act Release No. 2692, at p. 11), and since, for the reasons already stated, neither Detroit Edison nor Pacific Gas and Electric Company is part of the single integrated system or any additional integrated system which may be retained by North American, North American must divest itself of its interests in these companies.[35]

2. *North American's Direct Non-Utility Subsidiaries.* 356

(a) *North American Utility Securities Corporation*—This company was organized under the laws of Maryland in 1924 as a medium for the investment of North American's surplus funds. The company has not been active for some time. Its investment portfolio (consisting of securities whose market value as of December 31, 1940, was $4,667,-

[35]Petitions for review of our orders denying the Section 2(a)(8) applications were filed by Detroit Edison and Pacific Gas and Electric Company. Our order in the former case was sustained by the Circuit Court of Appeals for the Sixth Circuit (*The Detroit Edison Company* v. *Securities and Exchange Commission*, 119 F. (2d) 730 (1941)), and a petition for certiorari was denied by the Supreme Court (62 S. Ct. 105 (1941)). The petition for review in the *Pacific Gas and Electric Company* case is now pending in the Circuit Court of Appeals for the Ninth Circuit. Against the possibility that our order in that case may be reversed on judicial review and that Pacific Gas and Electric may be found not to be a subsidiary of North American, we have thought it appropriate to give respondents the full benefit of our views and consider whether North American might be permitted to retain its interest in Pacific Gas and Electric Company on the theory that such interest constituted a mere investment in a non-subsidiary utility company. We have concluded, however, that even if North American's interest in Pacific Gas and Electric Company were so to be treated, we could not find it retainable under Section 11(b)(1). 357

865)[36] yielded, in 1940, a net return of $279,190. All of the outstanding preferred stock of the company, and 80.6% of the common, is held by North American. As of December 31, 1940, there were dividend arrears on the preferred stock amounting to $25 per share, and there was apparently no equity for the common stock.

The only argument made for retention of the interest of North American in North American Utility Securities Corporation is that it "contributes diversity to the North American system and in no way interferes with the operations of
359 the utility subsidiaries of North American." On that narrow ground North American requests us to find that retention of the interest may be permitted under the "other business" clauses of Section 11(b)(1).

The extent to which diversity was sought in this venture may be tested by noting that one-third of North American Utility's assets consists of stock in a company (Pacific Gas and Electric Company) in which North American's direct and indirect investment is substantial enough to create a statutory parent-subsidiary relationship, and that
360 43.14% of North American Utility's assets consists of utility investments. Moreover, the mere fact that an investment offers "diversity" affords no justification for its retention by a public utility holding company under the "other business" clauses of Section 11(b)(1). A contrary conclusion

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[36] Based on market values, its portfolio was distributed as follows:

Railroad common stock	3.37%
Utility common stock (including 56,900 shares of Pacific Gas and Electric Company common stock, representing approximately ⅓ of total assets)	42.04%
Utility preferred stock	1.10%
Industrial common stock	52.33%
Industrial preferred stock	1.16%

would require the Commission to permit public utility holding companies to operate any type of business, however remote its relationship to the utility business. As we have already pointed out, the standards of the "other business" clauses do not exist in a vacuum, but can be considered only in relation to the operations of public utility systems. The argument that mere diversity of investment justifies the retention by a holding company of an unlimited number of varied interests was presented at length to Congress at the time this legislation was under consideration. In 362
enacting the statute and particularly in enacting Section 11(b)(1), Congress indicated clearly its rejection of this argument.[37] We cannot make the findings necessary under Section 11(b)(1) to permit the retention of North American's holdings in North American Utilities Securities Corporation, and we must therefore order North American to divest itself of these holdings.[38]

(b) *60 Broadway Building Corporation*—This corporation, all of whose stock is owned by North American, was

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[37]"Diversification of risks is a matter of investment judgment to be undertaken by the individual investor or an investment trust, not 363
by those actually controlling and managing operating companies." Report of Senate Committee on Interstate Commerce on S. 2796, p. 12, Report No. 621, 74th Cong., 1st Sess.

In discussing the argument based on geographic diversification of utility properties, the Senate Report states:

> "Even if the argument of diversification were sound, it is outweighed by the political and general economic desirability of breaking up concentrations of financial power in the utility field too big to be effectively regulated in the interest of either the consumer or the investor, and too big to permit the function of democratic institutions." (*Id.*, p. 12.)

[38]It is clear, of course, that whatever our finding as to North American Utility Securities Corporation itself, it could not be used by North American as a vehicle for indirect ownership of stock of Pacific Gas and Electric Corporation which, as we have already held, cannot be retained in the North American system.

364 formed under the laws of New York in 1924. It owns a 25-floor building at the address indicated in its name, in the financial district of New York. Only two floors and part of three others are occupied by North American. The remainder of the building is leased to various unaffiliated tenants.

As of December 31, 1940, 60 Broadway Building Corporation had assets of $4,869,879, outstanding liabilities represented by a mortgage of $1,918,750 and open account indebtedness to North American of $1,659,023, and common stock
365 in the amount of $100,000.

The building owned by this company was acquired by North American for investment purposes and, it is claimed, as a "hedge" against rising rents. During the period between 1928 to 1934, North American paid rent to the corporation at about half the rates charged to other tenants and, in addition, during the years 1928 to 1933, received dividends on its investment. The corporation's net income in 1940, before interest on the open account indebtedness, was $49,293.

366 If it were clear that North American's holdings in this company represented merely an indirect ownership of appropriate office facilities, we should have no difficulty in holding that the interest could be retained under the Act. However, when we consider the location and type of building owned by 60 Broadway Building Corporation and the fact that North American occupies only two floors and a portion of three others, out of the 25 floors in the building, there would seem to be some question whether ownership of this building is not more than ownership of appropriate office space. The record is not sufficiently complete on this point and we think it unnecessary to decide the question at this time. It seems clear that when the North American system com-

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plies with Section 11(b)(1), the needs of North American in respect of office space will be very much altered. Accordingly, we have decided to reserve this question for further consideration in the light of the future needs of North American in this respect.

(c) *West Kentucky Coal Company of New Jersey*—This company, which was formed in New Jersey in 1905, is engaged, directly and through subsidiaries, in mining coal in Kentucky. It has been stated that the company was organized to serve as a source of coal supply to the St. Louis

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operations but that, since this was found to be impracticable, the company's output has been sold almost exclusively to non-affiliated purchasers. As of December 31, 1940, the total book value of the company's assets on a consolidated basis was $16,274,885. North American holds all of its common stock and over 115,656 shares of a total of 120,000 shares of its preferred. In addition, there is a large open account indebtedness running from the coal company to North American. As of December 31, 1940, North American carried its investment in the stock of this company at $3,801,351. The company's net income for 1940 (before preferred stock divi-

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dend requirements) was $42,837.

The only argument advanced in support of the retention of this interest is that the mines operated by the company would afford a source of supply for the Union operations if other sources were closed off. There is no evidence that this contingency has occurred in the 35 years of the coal company's existence. Moreover, federal regulation of coal prices, the power to make priority orders, and the extent of labor organization indicate that contingencies affecting any source of supply of coal usable for electric generation may well affect other similar sources.

370 As we indicate below, in our discussion of the Union Colliery Company, there may be instances in which we can find that ownership of the source of a system's requirements of a vital necessity for utility operations is "reasonably incidental, or economically necessary or appropriate" to the operations of an integrated electric utility system under Section 11(b)(1). However, as has been noted, the output of West Kentucky Coal Company is not used by North American but is sold almost exclusively to non-affiliated purchasers. It is clear, therefore, that North American's
371 holdings in the company do not represent ownership of a vital commodity used in the operations of the public utility system but that they represent merely an investment in a business which bears no relation whatever to the system's permissible utility operations.

Accordingly, we cannot find that retention by North American of West Kentucky Coal Company of New Jersey and its subsidiaries is permissible under Section 11(b)(1).

3. "Other Businesses" of the Union Group.

372 (a) *Steam heating business*—Union Electric Company of Missouri, top company in the Union group, provides steam heat in St. Louis from boilers located in the so-called Ashley Street steam generating station. A total of 414 customers are thus served, and, in 1939, $750,510 of revenue was derived from that business.

The evidence indicates joint use of facilities and personnel in the steam and electric operations. It has also been shown that the joint operations of the steam and electric facilities are closely related. During summer, hydro-electric production must be backed by steam generation because of low water conditions. At the same time the heating peak is low. When the hydro capacity goes up in winter and requires

less steam generation backing, boilers may nevertheless be kept in continuous operation to supply the additional heat. On the basis of the record before us, we find that this steam heating business is reasonably incidental and economically necessary or appropriate to the operations of the electric utility system and that it may be retained under Section 11(b)(1).

(b) *Union Colliery Company*—This company is a direct subsidiary of Union Electric Company of Illinois,[39] which holds all of its outstanding securities. It operates a mine 374
at Dowell, Illinois, about 85 miles southeast of St. Louis. For the year ended June 1940, it produced 1,260,000 salable tons of coal, of which 1,010,000 were sold to the Union group for use in its electric utility operations. This represents most of the coal used by the Union group. Union Colliery's property account, as of September 30, 1940, amounted to $2,375,000. It had a net income in 1939 of $61,408.

North American claims that ownership of this mine represents ownership of a commodity vital to the electric operations of the Union group and affords a continuous supply of coal to the group. It is stated that this continuous supply 375
is particularly important because of the wide variations at different periods in the group's need for coal.[40]

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[39]Union Electric Company of Illinois is in turn a subsidiary of Union Electric Company of Missouri. It owns generating plants in Illinois at Cahokia and Venice, adjacent to St. Louis, and serves he East St. Louis, Illinois, territory with electricity.

[40]The Union group uses steam and hydro-electric generators. Of a total name plate generating capacity of the Union group of 722,500 kw, 237,000 kw are hydro capacity, afforded by generators at Osage, Missouri, and Keokuk, Iowa. The generating policy of the Union group is to supply hydro power to the highest available extent, and thereafter to run steam stations to supply additional loads in the order of their efficiencies. The seasonal variations in available hydro power result in variations in the use of steam generators, and consequent variations in the consumption of coal.

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The distinctions between the problems presented with respect to retention of the Union Colliery Company and the West Kentucky Coal Company (see p. 31, *supra*) are, in our opinion, sufficient to warrant different conclusions. First, although West Kentucky sells very little of its coal to the Union group, over 80 percent of the entire output of the Colliery mines is actually used by the Union group for generating operation. Second, the Colliery Company's mines, which are located close to the utility operations of the system, have been demonstrated by experience to be a convenient and
377 economical source of a commodity vital to the system's electric utility operations. Third, the economies shown to result from joint operation of the Colliery Company and the Union group[41] have been clearly shown to be related to the economic and efficient management of the electric utility system. Fourth, the Colliery Company is wholly owned by Union and appears to be operated as a mere department of the Union group.

For these reasons, we cannot agree with the contention of counsel for the Public Utilities Division that this interest cannot be retained in the system. We find the business of
378 the Union Colliery Company to be reasonably incidental, or economically necessary or appropriate to the electric utility operations of the Union group and hold that it is retainable by the Union group and North American.

(c) *Union Electric Land and Development Company*— This company, a direct subsidiary of Union Electric Company of Missouri, was formed in 1929 to acquire land needed for the development of a hydro-electric plant at the Lake of

[41] *E.g.*, performance of electrical engineering for the Colliery Company by Union group engineers, use of joint office and automotive facilities and personnel.

the Ozarks. The land is no longer desired for that purpose, and the company is at present engaged in a program of liquidating its holdings, which, as of September 30, 1940, were valued at $1,940,000. Although we have been requested by counsel for the Public Utilities Division to find that this business is reasonably incidental, or economically necessary or appropriate to the operations of the integrated public utility system of the Union group, we cannot do so. There is no evidence in the record to justify a finding that the business of the company is retainable under Section 11(b)(1). Indeed, the fact that a voluntary program for 380
liquidation of the company's holdings has been undertaken is some evidence that respondents do not regard the business as economically necessary or appropriate. Should time beyond a year be necessary for liquidation, respondents may apply, under Section 11(c), for an appropriate extension.

(d) *Union group transportation business*—The St. Louis and Belleville Electric Railway Company, a wholly-owned subsidiary of Union Electric Company of Missouri, owns and operates a freight line 11 miles long, on a single track from Belleville, Illinois, to East St. Louis, Illinois. Its 381
investment in railroad property amounts to about $1,300,000. It employs about 60 men. It owns an aggregate of 450 coal cars, many of which it leases to other roads.

The road has had an average net income of $56,000 per annum for the years 1930-1940. It did not, at any time during this period, operate at a loss.

Respondents have argued that the railroad is related to the utility operations of the group in the following respects:

1. Coal is the road's principal cargo, and it moves a large portion of the coal consumed by the group; this

business amounted to about 88% of all the coal hauled by the road between 1935 and 1940;[42]

2. Purchasing, certain warehousing, accounting, recording, property valuation, and tax matters are centrally handled for the railway company, as for other companies in the Union group;

3. The railroad purchases current used in its operations from Union Electric Company of Illinois.

383 Respondents contend that ownership of the road is of great advantage to Union's utility operations and that its retention should be permitted on the ground that such retention provides an assurance against car-shortage—a dire contingency for coal consumers which occurred during the first World War.

We cannot agree with the latter contention. As common carriers, railways have the duty of offering service to all who will pay for it. The jurisdiction of the Interstate Commerce Commission to control the supply of cars,[43] the possibility of car rationing, and priorities and allocation orders by
384 agencies of the government to meet critical transportation needs, make it unlikely that ownership of the road will result in any material advantage, or that non-ownership will cause any material disadvantage in the event of car shortage.

We have, however, permitted, as reasonably incidental and economically necessary or appropriate to North Amer-

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[42]The record does not indicate the precise extent of other business done by the road for unaffiliated interests.

[43]Transportation Act of 1920; see Sections 1(1), (11), (12), (13), (14), and (15). See Monograph No. 11 of the Attorney General's Committee on Administrative Procedure (Sen. Doc. No. 10, 77th Cong., 1st Sess.), pp. 63-65.

ican's utility operations, the retention of the coal mines of Union Colliery Company. It appears that the St. Louis and Belleville Railway is merely a single-track freight line 11 miles long used primarily for the transportation of coal coming from the Union Colliery mines to the Union group. Under the circumstances and having particular regard to the size, location, and use of the road, we find it to be reasonably incidental and economically necessary or appropriate to the electric operations of the Union group, and we hold that it may be retained in the North American system. We think it appropriate to indicate that our finding in this respect 386 approaches what we believe to be the limits of vertical ownership permitted under the Act. And if it should appear in the future that the railroad no longer bears the same relation to the utility operations of the Union group, it might well be necessary to require its divestment from the North American and Union Electric systems.

(e) *Dormant companies*—East St. Louis & Suburban Railway Company and East St. Louis Railway Company, both subsidiaries of Union of Missouri, are completely dormant. It is claimed that these companies are kept alive 387 because of the pendency of litigation arising out of suits commenced while the companies still had assets. No attempt has been made to show that retention of these companies by North American or Union Electric of Missouri would meet the standards of the "other business" clauses of Section 11(b)(1). Disposition of Union of Missouri's holdings in these companies must be ordered.

4. *"Other Businesses" of the North American System*—Many of the other subsidiary holding companies and public utility companies controlled by North American own non-

utility assets or securities of non-utility companies and engage in non-utility businesses. Many of these non-utility businesses are discussed in the course of this opinion. We have not, however, thought it necessary to consider in any detail the non-utility businesses conducted by the Wisconsin-Michigan group, Cleveland Electric Illuminating Company, The Detroit Edison Company, or Pacific Gas and Electric Company. Such evidence as exists in the record with respect to the non-utility businesses of these companies or their subsidiaries indicates no relationship whatever between such
389 business and the utility operations of the Union group. The only relationships shown have been with respect to the operation of the above-named companies. Since we cannot find that there is any relationship between these non-utility businesses and the utility operations of the Union group, we must hold that they cannot be retained by North American under the "other business" clauses of Section 11(b)(1).

Conclusions with Respect to the North American System—In accordance with the foregoing, our order will require North American to divest itself of all of its holdings of
390 securities, direct and indirect, except the securities of Union Electric Company of Missouri, Union Electric Company of Illinois, Mississippi River Power Company, Iowa Union Electric Company, Cupples Station Light, Heat and Power Company, and St. Louis County Gas Company (whose electric operations we have found to constitute North American's principal integrated utility system and whose gas operations we have reserved for further consideration), those of Union Colliery Company and St. Louis and Belleville Electric Railway Company (whose businesses we have found to be reasonably incidental, or economically necessary or appropriate to the retainable utility operations of the North American sys-

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tem), and those of 60 Broadway Building Corporation (which we have reserved for future consideration).

As we have indicated, we have determined to afford North American a further opportunity to present argument with respect to the choice of its principal system. Accordingly, we shall provide that our order, insofar as it requires divestment by North American, shall be subject to modification if a request is made for opportunity to present further evidence or argument in this respect, and if such further evidence or argument warrants modification.

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We proceed to consider the application of Section 11(b)(1) to the sub-holding company respondents.

II. The Holding Company System of Union Electric Company of Missouri

Our discussion with respect to the North American system includes our views on the application of Section 11(b)(1) to Union Electric Company of Missouri as a registered public utility holding company. In accordance with the views there expressed, Union Electric Company of Missouri will be permitted to retain the electric properties of the Union group, which we have found constitute an integrated electric utility system, and—subject to our further consideration of their retainability under the Act—the gas properties of Union Electric Company of Illinois and Iowa Union Electric Company. Union Electric of Missouri will also be permitted to retain its steam heating business and the interests in Union Colliery Company and St. Louis and Belleville Electric Railway Company, which we have found may be retained under the "other business" clauses. Union Electric will be directed to divest itself of its holdings in Union Electric Land and Development Company, East St. Louis & Suburban Railway Company, and East St. Louis Railway Company.

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III. The Holding Company System of Washington Railway and Electric Company

Washington Railway and Electric Company (Washington Railway), a direct subsidiary of North American and a registered holding company, has the following direct and indirect subsidiaries: Potomac Electric Power Company (PEPCO), Great Falls Power Company, The Washington and Rockville Railway Company of Montgomery County (Washington and Rockville), Braddock Light & Power Com-
395 pany Incorporated (Braddock), Capital Transit Company, Montgomery Bus Lines, Incorporated, and The Glen Echo Park Company.

Washington and Rockville, itself a registered holding company, holds all the stock of Braddock and 33.32% of the stock of Great Falls Power Company. Capital Transit Company holds all the securities of Montgomery Bus Lines, Incorporated, and of The Glen Echo Park Company.

The operations of the system controlled by Washington Railway consist of electric operations conducted in the District of Columbia and adjacent portions of Virginia and
396 Maryland, a transportation business conducted in the District and adjacent portions of Maryland, the ownership of certain real estate bordering on the Potomac River, and the operation of an amusement park in Maryland.

PEPCO and Braddock conduct the electric operations of the group. The real estate operations are conducted by Great Falls Power Company; the transportation operations by Capital Transit Company and Montgomery Bus Lines, Inc. The amusement park is owned by The Glen Echo Park Company.

A. *The Principal System*—PEPCO owns an interconnected system of generating transmission, and distribution

facilities in the District of Columbia. Although Braddock is maintained as a separate corporate entity, its territory is contiguous to PEPCO's and it receives all its power from PEPCO sources through interconnections therewith. We find that the utility operations conducted by PEPCO and Braddock together constitute those of a single integrated electric utility system and that these companies are retainable as such by Washington Railway. Since these are the only utility operations of the system, the only other issues to be disposed of with respect to this system are those arising 398 under the "other business" clauses of Section 11(b)(1).

B. *The "Other Businesses" Retainable by Washington Railway.*

1. *Great Falls Power Company*—This company holds title to about 1,050 acres of land bordering the Potomac River. All of its securities are held within the Washington group, 66.68% by Washington Railway, and the remainder by Washington and Rockville. The assets of the company are carried on its books at about $510,000. Camp sites have been erected on the property, and their operation has enabled the 399 company to meet taxes.

Respondents have expressed the opinion that sale of this real estate should be withheld until a "more favorable" market has developed. But, as we have pointed out, considerations of this sort relate only to the time at which compliance with a divestment order should be enforced and have no pertinency to the question whether retention of the real estate is permissible under the Act. Respondents make the further argument that a certain Joint Resolution of Congress permits the retention of this company free of any order of this Commission. For the reasons hereinafter set forth in

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our discussion of this question in connection with Capital Transit, we believe that this argument does not override the express mandate of Section 11(b)(1) and is no bar to an order of divestment. Neither claim has any bearing on whether the business of this company is reasonably incidental, or economically necessary or appropriate to the operations of the single integrated public utility system controlled by Washington Railway. We think it is clear that such a real estate investment does not meet the standards of the "other business" clauses of Section 11(b)(1) and that it
401 cannot be retained by Washington Railway or Washington and Rockville.

2. *Capital Transit Company and Its Subsidiaries*—As of December 31, 1940, Capital Transit's capitalization was:

Funded Debt (including maturities payable within one year)	$15,490,869
Capital Stock, 240,000 shs. of $100 par	24,000,000
Capital Surplus	1,715,839
Earned Surplus	2,890,375
Debt Retirement Reserve (Appropriated Surplus)	300,410
402 Total	$44,397,493

During 1940 the gross income of Capital Transit Company was $1,878,364, and its net income carried to surplus, $872,081. Fifty percent of the stock of Capital Transit is owned by Washington Railway and in 1940 was carried on its books at $19,833,441.

Capital Transit does practically all of the buss and trolley business in the District of Columbia and the adjacent portions of Maryland which it serves. It owns 621 miles of

track, 665 street cars, 80 miscellaneous cars, and 666 busses. It employs 3,709 people and its payroll for the year 1939 was $6,099,684.

In support of their contention that these properties may be retained, respondents point to the long historical association between the electric and transportation properties of the system. Washington Railway was, in 1899, put under the control of Washington Traction and Electric Company in conjunction with several electric companies whose assets Washington Railway later purchased. In 1902 PEPCO acquired these electric utility assets from Washington Railway. 404
In the course of a unification of traction properties in the District, Capital Transit Company in 1933 took over the traction properties controlled by Washington Railway in exchange for its own stock, which stock was acquired by Washington Railway pursuant to a Joint Resolution of Congress.

There is evidence of some joint ownership of electric facilities by PEPCO and Capital Transit Company, and use by PEPCO of facilities owned by Capital Transit and by Capital Transit of certain of PEPCO's facilities. In addi- 405
tion, where equipment owned by Capital Transit Company is situated on property owned by PEPCO, PEPCO's operating force cares for it. There is, however, only one employee of either company who is paid by both.

Montgomery Bus Lines, Incorporated, a subsidiary of Capital Transit, operates a bus line from the District into Rockville and Gaithersburg, Maryland. All of its equipment is rented from Capital Transit Company.

The Glen Echo Park Company, another subsidiary of Capital Transit, operates an amusement park in Maryland, not far from the District. It is claimed that this business

serves to increase traffic on Capital Transit Company lines, and that it is remunerative.

Counsel for North American have argued not only that this vast enterprise, itself a highly complex and individuated business, is "reasonably incidental, or economically necessary or appropriate" to the operations of the single integrated electric utility system of PEPCO and Braddock, but that, in any event, it is beyond our power to order a divestment of Washington Railway's interest in this business.

407 The latter argument is based on the above-mentioned Joint Resolution of Congress of January 14, 1933, which provided (47 Stat. 752):

> "That the Washington Railway and Electric Company is hereby authorized and empowered to retain and hold stocks and bonds as provided in said unification agreement . . ."

As noted above, this Resolution related, *inter alia*, to Washington Railway's acquisition in 1933 of the Capital Transit stock. Respondents assert that it is "a fundamental principle of statutory construction that *general* provisions in a later 408 statute will not be deemed to repeal the *specific* provisions of an earlier statute," and that, therefore, no mandate of the Public Utility Holding Company Act of 1935 can be construed to require divestment of these holdings. It is urged, further, that it "may be assumed" that in passing the Joint Resolution of 1933, "Congress had in mind" the general criteria later to be laid down in Section 11(b)(1) of the Public Utility Holding Company Act.

We are not persuaded by this reasoning. Its weakness is illustrated by the very quotations from decided cases given in counsel's brief. Thus, *Rodgers* v. *United States*, 185 U. S. 83, 87-88 (1902) is cited for the proposition that:

". . . the fact that the one [act] is special and the other is general creates a presumption that the special is to be considered as remaining an exception to the general, and the general will not be understood as repealing the special, unless a repeal is expressly named, *or unless the provisions of the general are manifestly inconsistent with those of the special.*"[44] (Emphasis supplied.)

We think it is clear that the two Acts are manifestly inconsistent, within the meaning of the rule laid down in the *Rodgers* case. The Joint Resolution was addressed to a specific situation presented to Congress by private parties to 410
facilitate private action by a corporation subject to the power of Congress. But the declaration of Congress in 1935, that a public utility holding company system must be limited to a single integrated public utility system, permissible additional systems, and such businesses as are reasonably incidental or economically necessary or appropriate thereto, is clearly a sufficient warrant to us to order compliance by Washington Railway with the mandate of Section 11(b)(1).

"No principle is better settled than that a special charter to any corporation to engage in a business of a 411
public or quasi public nature cannot be set up as exempting the institution from that regulation by the state in the exercise of its police power which the public necessity demands." *Citizens Bank & Trust Co.* v. *Mabry*, 102 Fla. 1084, 136 So. 714, 716 (1931).

See, too, *Texas and New Orleans R. R. Co.* v. *Miller*, 221 U. S. 408 (1911); *State ex rel. Davis* v. *Knight*, 98 Fla. 891, 124 So. 461 (1929); *Kentucky Power & Light Co.* v. *City of Maysville*, 36 F. (2d) 816 (E. D. Ky. 1929); and *cf. Hammond Packing Company* v. *Arkansas*, 212 U. S. 322 (1909).

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[44]See, too, *Washington* v. *Miller*, 235 U. S. 422, 428 (1914).

We have set forth at length, heretofore, our views as to the meaning of the "other business" clauses of Section 11(b)(1). Nothing presented to us respecting retention of Capital Transit Company or its subsidiaries has convinced us that we can find, in accordance with those views, that the retention of such transportation properties and amusement park is reasonably incidental, or economically necessary or appropriate to the operations of the integrated electric system of PEPCO and Braddock under the standards of Section 11(b)(1). Indeed, we think that one of the clearest Con-
413 gressional objectives, in enacting Section 11(b)(1), was to require that public utility holding company systems divest themselves of huge investments in unrelated fields such as the vast and complex transportation business of Capital Transit and the amusement park of The Glen Echo Park Company.

Washington Railway and Electric Company will be required to limit its operations in accordance with the foregoing. Accordingly, it will be directed to dispose of all interests, direct and indirect, in Great Falls Power Company and Capital Transit Company and its subsidiaries.
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IV. The Holding Company System of Washington and Rockville Railway Company of Montgomery County

As we have indicated in our discussion respecting Washington Railway, Washington and Rockville will be required to divest itself of its holdings in Great Falls Power Company. Since the holding of Braddock and Great Falls Power stock constitutes the only business of Washington and Rockville, and since we have found that the properties of Braddock constitute part of an integrated utility system retainable by

Washington Railway and by Washington and Rockville, this is the only action necessary for Washington and Rockville to comply, as a registered holding company, with Section 11(b)(1).

North American Light & Power Company

As previously noted, we have ordered the dissolution of Light & Power pursuant to Section 11(b)(2) of the Act. 10 S. E. C. —— (1941), Holding Company Act Release No. 3233. We assume that Light & Power will be dissolved in 416
accordance with our order and that there will no longer be a holding company system headed by Light & Power. Under the circumstances, we find it unnecessary to consider the requirements of Section 11(b)(1) as they affect the Light & Power system. However, the dissolution of Light & Power will not, in and of itself, avoid the necessity for applying the mandate of Section 11(b)(1) to the holding company systems headed by subsidiaries of Light & Power which are themselves registered holding companies. These sub-holding company systems are headed by Northern Natural Gas Company and Illinois Traction Company (both of which are 417
direct subsidiaries of Light & Power), Illinois Iowa Power Company (a subsidiary of Illinois Traction), and Des Moines Electric Light Company (a subsidiary of Illinois Iowa Power Company).

V. The Holding Company System of Northern Natural Gas Company

Northern Natural Gas Company is a Delaware corporation, organized in 1930, with offices at Omaha, Nebraska. At the time this record was closed, 35% of its common stock

was held by Light & Power, 35% by United Light and Railways Company, a subsidiary of United Light and Power Company, and 30% by Lone Star Gas Corporation.[45] Northern is itself an operating company as well as a registered holding company. It owns transmission lines and sells natural gas at wholesale for redistribution and for industrial use. Its transmission lines, which constitute the major portion of its assets, tap fields in Texas and Kansas and run for a distance of 2,783 miles through Oklahoma, Kansas, Nebraska, South Dakota, Iowa, and Minnesota.
419 Northern is not a "gas utility company" as that term is defined in Section 2(a)(4) of the Act.[46]

Northern owns all of the common stock of its two subsidiaries, Peoples Natural Gas Company and Argus Natural Gas Company. Peoples and Argus maintain facilities for the sale of natural gas at retail and are gas utility companies within the meaning of the Act.

Peoples sells natural gas at retail in 66 cities and towns in 3 separate areas located in eastern Nebraska, central Iowa, and southern Minnesota (which latter area laps over into

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[45] Since the close of the record in this proceeding, applications have been filed for approval of a reclassification of Northern Natural Gas Company's stock preliminary to a proposed public offering of the holdings of North American Light & Power in that company (File No. 70-286) and for approval of such an offering (File No. 70-302). The former application has been approved. *Northern Natural Gas Company, et al.*, 9 S. E.C. —— (1941), Holding Company Act Release No. 2815. The proceeding in respect of the latter application is still pending.

[46] Section 2(a)(4) provides, in part:

> "'Gas Utility company' means any company which owns or operates facilities used for the distribution at retail (other than distribution only in enclosed portable containers, or distribution to tenants or employees of the company operating such facilities for their own use and not for resale) of natural or manufactured gas for heat, light, or power."

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Northern Iowa). In 1940 Peoples served a total of 19,513 customers with over 3,500,000 mcf. of gas. All of Peoples' gas supply is derived from its parent, Northern.

Argus' properties are located in southwestern Kansas. It sells natural gas in 15 communities and 7 counties in that part of the State, and in 1940 served 5,575 gas customers to whom 2,337,860 mcf. were sold. Argus owns about 200 miles of gas transmission lines and distribution systems connected thereto. It purchases its gas requirements principally from non-associated producers in the Kansas Hugoton field and to a small extent from its parent, Northern.

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Northern, Peoples, and Argus, taken together, serve areas aggregating 25,000 square miles, containing a population of 850,000 persons. On a consolidated basis, as of December 31, 1940, the group had fixed assets carried on the books at $55,384,707,[47] and total operating revenues for 1940 of $12,857,002. During 1940, the group sold 55,873,808,000 cubic feet of gas.

Counsel for Light & Power have requested us to find that the operations of Northern, Peoples, and Argus constitute those of a single integrated gas utility system. Such a finding cannot be made under the statute.

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Section 2(a)(29)(B) defines an integrated gas utility system as one—

> "consisting of one or more gas utility companies which are so located and related that substantial economies may be effectuated by being operated as a single coordinated system confined in its operations to a single area or region, in one or more States, not so large as to impair (considering the state of the art and the area or region affected) the advantages of localized management, effici-

[47] Of this total, Northern's fixed assets were carried at $49,753,568, Peoples' at $2,835,241, and Argus' at $2,598,858.

ent operation, and the effectiveness of regulation: *Provided,* That gas utility companies deriving natural gas from a common source of supply may be deemed to be included in a single area or region."

As has been noted, Argus purchases almost all of its gas from non-affiliated sources, while Peoples acquires its gas from Northern. The operations of the Argus properties have a much less important relationship to those of Northern than do the operations of Peoples. Moreover, there are
425 important differences in their methods of operation. From the evidence in the record we cannot find that there are substantial economies, or indeed any economies, resulting to Argus from joint ownership and control of its properties together with Peoples. Accordingly, Argus cannot be regarded together with Peoples and Northern as part of a single integrated system and it can be retained in combination with Peoples only if its retention satisfies the standards of the (A), (B). (C) clauses.

A. *The Principal System*—We must, in order to dispose of the issues before us, base our opinion on one of the inte-
426 grated systems controlled by Northern as the "principal system." Northern has not indicated any choice in this matter. For the reasons hereinafter set forth we have concluded that clauses (A) and (C) would bar the retention by Northern of both Peoples and Argus. Since the Peoples system has assets valued at $2,835,241 as against Argus' assets of $2,598,858, since Peoples' net income for 1940 was $203,137 as against Argus' $100,242, and since, for the reasons hereinafter discussed, we find that Northern can retain its directly owned transmission lines along with Peoples (while such retention could probably not be permitted if Argus were kept as the principal system), we assume that,

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faced with a choice, Northern would elect Peoples as its principal system. We should not be disposed to question such a choice. Consequently, we shall base the remainder of our discussion and our order on Peoples as the principal system in the Northern holding company group. However, we will afford Northern a further opportunity to present argument, if it so desires, with respect to this question.

It has been suggested that the transmission lines of Northern may be considered together with the properties of Peoples as a single integrated gas utility system. As we have pointed out, however, Northern is not a gas utility company within the meaning of the Act and there is considerable question whether, under Section 2(a)(29)(B) the facilities of companies which are not gas utility companies can be regarded as part of an integrated gas utility system. The definition in Section 2(a)(29)(B) refers exclusively to "gas utility companies," and it is suggested that this exclusive reference precludes any intention to comprehend within an integrated gas utility system companies which are not gas utilities under the Act. However, we need not now decide this question since, for the reasons hereinafter stated, we find that in any event Northern can retain the transmission lines along with Peoples under the "other business" clauses of Section 11(b)(1).

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B. *The Additional Systems Retainable by Northern*—Taking Peoples as the principal system, the retention of Argus would satisfy clause (B) of Section 11(b)(1) since Argus is located in Kansas and some of Peoples' properties are located in Nebraska, which adjoins Kansas.

As we have stated, the evidence in the record is insufficient to enable us to determine that there are substantial economies, or indeed any economies, resulting from joint

430 ownership of Peoples' and Argus' properties. Argus purchases most of its gas from non-affiliated sources, while Peoples acquires almost all of its gas from Northern. There are physical differences in the properties of Argus and Peoples; different installation standards, different practices respecting meter ownership and testing. We could not, therefore, make the finding required by clause (A) to permit the retention of Argus as an additional system. However, even were such a finding possible, clause (C) would bar such retention.

431 The record does not show that the centralized control of Argus and Peoples leaves, to each of them, the advantages of localized management. The evidence which merely shows divisional maintenance, location of local offices, and localization of retail activities, is not sufficient. When in fact management is highly centralized, as it is in Northern's main office at Omaha, and there is no evidence as to the local nature of important policy determinations, we cannot find that the advantages of localized management are not impaired by central control. We believe that under clause (C) no combination of systems should be permitted which would

432 impair true localization of management and policy-making. Otherwise, as is the case in the area in which Northern operates, small communities are pitted against strong "absentee control" with respect to matters vitally affecting the interests of the communities. Insofar as possible, we are required under Section 11(b)(1) to insure local management responsive to local needs and local public feeling.[48]

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[48] "An operating system whose management is confined in its interest, its energies, and its profits to the needs, the problems, and the service of one regional community is likely to serve that community better, to confine itself to the operating business, to be amenable to local regulation, to be attuned and responsible to the fair demands

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C. *The "Other Businesses" Retainable by Northern*—The great bulk of Northern's assets is represented by its directly held production and transmission properties. Of a total of group assets (*i.e.*, the assets of Northern, Peoples, and Argus) of $55,384,707, almost $50,000,000 is represented by the production and transmission facilities owned by Northern.

The question presented here is whether this vast enterprise can be regarded as "reasonably incidental, or economically necessary or appropriate" to the operations of any integrated system retainable by Northern. In general, the pattern of the statute and the context of the relevant statutory provisions seem to indicate that the "other business" tests are not to be applied to operations grossly out of proportion to the utility business with respect to which they are claimed to be "reasonably incidental, or economically necessary or appropriate." In the ordinary case, therefore, we believe the statute contemplate that after compliance with Section 11(b)(1) the integrated utility systems retainable by a registered holding company will constitute its primary business and that retainable non-utility interests will occupy a clearly subordinate position. However, the problems in the natural gas utility industry and the problem in this case, in particular, present an exceptional situation. Northern's pipe lines supply all of People's gas and appear to be vital

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of the public, and, more often, to get along with the public to mutual advantage . . . Essentially local systems will tend to operate utilities rather than to play with high finance; and essentially local enterprise is far less likely to accumulate a disproportionate amount of political and economic power." (Report from the Committee on Interstate Commerce, 74th Cong., 1st Sess., Report No. 621 to Accompany S. 2796, May 13, 1935, p. 12.)

to its operations.[49] Although there may be some question whether Section 2(a)(29)(B) permits us to regard the facilities of Northern as part of the "integrated gas utility system" of Peoples, we believe it has been shown that the joint ownership of these facilities satisfied the standards of the "other business" clauses and that Northern may therefore retain its transmission lines in combination with the properties of Peoples.

We cannot emphasize too strongly, however, that our conclusion with respect to the retention of the transmission
437 lines of Northern as a permissible "other business" is highly conditioned by the facts of this case—and particularly by the fact that the question here presented is one of a natural gas utility company deriving its entire gas supply from transmission lines which bridge the gap from the source of supply to the ultimate consumer.[50]

Conclusions with Respect to Northern Natural Gas—At present Northern is a registered holding company and a respondent in this proceeding. We must, therefore, require its compliance with Section 11(b)(1). In accordance with
438 the foregoing, and subject to a further opportunity to be afforded to Northern for the presentation of its views as to the choice of a principal system, our order will direct Northern, as a registered holding company, to divest itself of its interest in Argus Natural Gas Company.

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[49]This is not the case with respect to Argus, which purchases almost all its gas from non-affiliated sources.

[50]See Hearings before the Senate Committee on Interstate Commerce, 74th Cong., 1st Sess., on S. 1725, at p. 673. See, too, *id.*, pp. 148, 958; and Hearings before the Committee on Interstate and Foreign Commerce, House of Representatives, 74th Cong., 1st Sess., on H. R. 5423, pp. 1747, 1794-95, 1865, 2254, 2280.

VI. The Holding Company System of Illinois Traction Company

Illinois Traction Company, a subsidiary of Light & Power and itself a registered holding company, is not engaged directly in any business other than that of a holding company. It has 16 direct and indirect subsidiaries, some of which are actively engaged in the gas and electric utility, ice, steam, water, transportation, and terminal businesses, and some of which are inactive.

As of December 31, 1940, the capitalization of Illinois 440
Traction Company was as follows:

6% cumulative preferred stock (217 shs. of $100 par value)	$ 21,700
Common stock (115,723 shs. of $100 par value)	11,572,300
Surplus (Deficit)	(14,920,039)

At the same date it was indebted to Light & Power to the extent of $12,695,317, which is not included in the above surplus deficit figure. It has not paid dividends on its preferred stock since January 1, 1933. Light & Power holds 441
70 shares of its preferred and 115,666 shares of its common stock.

Illinois Traction carries its own investments at $23,588,526. The largest of these is its investment in 300,000 shares of common stock (of a total of 783,805 shares outstanding) of Illinois Iowa Power Company, which is carried at $21,563,597.[51]

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[51] In addition, Illinois Traction held 300,000 warrants to purchase an equal number of shares of Illinois Iowa's common stock. These warrants are carried on Illinois Traction's books at $1. Light & Power had direct interests at December 31, 1940, in Illinois Iowa

Although the statement was made on the record that Illinois Traction Company was to be dissolved, it is still before us as a registered holding company and a respondent in this proceeding, and we must order it to comply with the requirements of Section 11(b)(1).

Illinois Traction's subsidiaries operate two large electric utility systems and several smaller electric properties. One of the larger systems, located in northern, central, and southern Illinois, is operated by Illinois Iowa Power Company and Kewanee Public Service Company, both direct subsid-
443 iaries of Illinois Traction. The other, in south central Iowa, is operated by Des Moines Electric Light Company, a subsidiary of Illinois Iowa, and Iowa Power and Light Company, a subsidiary of Des Moines.

The capitalization of Illinois Iowa, as of December 31, 1940, was:

Funded Debt	$ 97,228,100
Preferred Stock	24,175,000*
Common Stock	19,595,125
Earned Surplus (since May 1, 1937)	7,137,746
444 Paid-in Surplus	14,168,648
Total	$162,304,619

* Dividend arrears on this stock amounted to $4,432,083 in 1940.

through ownership of 4,800 shares of 5% cumulative convertible preferred stock, 800 certificates for dividend arrears and $16,000 principal amount of 5½% debentures, the aggregate carrying value being $139,215.

North American carried a small direct investment in Illinois Iowa common stock at $53,085, and carried a direct investment in its preferred at $155,795. In addition, it held directly dividend arrears certificates carried at December 31, 1940, at $56,547, and funded debt carried at an aggregate of $621,734.

After deduction of depreciation reserves, the property and plant account of the company amounted to $92,547,632, as of this same date. It carried investments in its subsidiaries at $67,123,872.[52]

Kewanee, whose operations are closely related to the electric operations of Illinois Iowa, carries its plant and property at $2,160,897 (with a depreciation or retirement reserve of $346,987).

The combined net income of both these companies in 1940 was $2,078,194. Illinois Iowa accounted for $2,073,198 of this amount. 446

The capitalization of Des Moines and Iowa Power and Light, (whose electric operations are closely related and which we find, for reasons hereinafter stated, together operate a single integrated electric utility system) at December 31, 1940, was:

Long Term Debt	$13,216,000
Advances from Illinois Iowa	3,300,000
Preferred Stock	6,323,300
Common Stock	6,700,000
Surplus	2,303,963
Total	$31,843,263

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[52]On August 22, 1941, we issued a notice of and order for hearing (Holding Company Act Release No. 2953) instituting proceedings under Section 11(b)(2) of the Act against Illinois Iowa Power Company. The order makes the tentative charge that, upon the basis of an examination of the corporate structure of Illinois Iowa and its subsidiaries, it appears to the Commission that:

"The corporate structure of Illinois Iowa Power Company unduly and unnecessarily complicates the structure and unfairly and inequitably distributes voting power among security holders of the holding company system of which it is a part."

This proceeding is now pending before us.

Illinois Iowa holds all the common stock of Des Moines and $1,750,000 of Des Moines' bonds, which holdings it carries at $8,839,387.

The total operating revenues of Des Moines and Iowa Power and Light in 1940, on a consolidated basis, were $7,086,710 and net income, upon the same basis, was $1,575,688.

The securities of Iowa Power and Light are held as follows:

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Security	*Amount*	*Held By*
Funded Debt	$11,466,000	Public
Preferred Stock	6,372,900	$49,600 by Des Moines, remainder by public
Common Stock	2,500,000	Des Moines

A. *The Principal System* — Neither Illinois Traction Company nor Illinois Iowa Power Company has indicated its choice of any "principal system." In order to dispose of the issues here raised, we have decided to base this opinion and our order herein on the largest and most important electric utility system included in the operations of Illinois Iowa 450 and Kewanee as the principal integrated system of Illinois Traction Company, and of Illinois Iowa. However, Illinois Traction and Illinois Iowa will be afforded a further opportunity to present argument, should they so desire, on the appropriateness of this choice of their principal system. Our order, insofar as it requires divestment by Illinois Traction and Illinois Iowa, will be subject to modification if after presentation of further argument or evidence in this respect, such modification should appear to be necessary.

The principal system upon which our opinion and order herein are based includes the electric operations of Illinois

Iowa in the three large areas in northern, southern, and central Illinois and in the area in Sangamon and Logan Counties, together with the electric operations of Kewanee Public Service Company.

Respondents have asserted that the limits of the system thus described are too narrowly confined. They contend (1) that certain electric operations conducted by Illinois Iowa in four additional areas must be considered together with the other electric operations of Illinois Iowa and Kewanee as part of a single integrated electric utility system, and (2) 452 that the electric operations of Des Moines and Iowa Power and Light must also be considered together with all the electric operations of Illinois Iowa and Kewanee as a single integrated system.

1. The additional electric operations conducted by Illinois Iowa, to which respondents' first contention relates, are relatively small in size and are located in the central and southern portions of Illinois, in regions around Jacksonville, Enfield, Eldorado, and Cairo, respectively. Although the main areas which we have held constitute the principal integrated system are physically interconnected by means of 453 lines owned, or leased for joint use, no such connections exist among any of the four small areas, or between any of them and the main areas. The only physical interconnection which may be said to exist between the smaller areas and the principal operations of Illinois Iowa results from the fact that facilities in the smaller areas are connected with facilities operated by Central Illinois Public Service Company, a non-affiliated company whose territory adjoins that of Illinois Iowa.

We cannot find that the operations in these smaller areas can be considered together with the principal operations of

Illinois Iowa as a single integrated electric utility system. In determining the boundaries of an integrated electric utility system under Section 2(a)(29), we must find that the utility assets included therein are physically interconnected or are capable of such interconnection, *and* that these utility assets under normal conditions may be "economically operated as a *single interconnected and coordinated system*" (Emphasis supplied.) We think it clear that the quoted language refers to the *physical* operation of utility assets (not the management of the company or companies owning
455 them) as a *single interconnected and coordinated* system; that is, a system in which (*inter alia*) the generation and/or flow of current within the system may be centrally controlled and allocated as need or economy directs, and which is operated as a unit. Thus, even though we find physical interconnection exists or may be effected, evidence is necessary that in fact the isolated territories are or can be so operated in conjunction with the remainder of the system that central control is available for the routing of power within the system. We can make no such finding with respect to the four
456 smaller areas. Power sold by Illinois Iowa in the Jacksonville, Enfield, and Eldorado areas is purchased from the Central Illinois Company. The Cairo area has a generating station, but Illinois Iowa's management regards it as more economical to purchase power for that area from the same company. Although it has been admitted that present interconnection of the four smaller areas with the rest of the system by facilities of Illinois Iowa is not "economical" or "provident," it is claimed that the operation of the electric facilities in these areas is "thoroughly coordinated" and "efficiently carried on." This may be true with respect to corporate management, but the record does not convince us

that all of the electric facilities of Illinois Iowa are, or can be, operated physically *as a single interconnected and coordinated system.*

2. Nor can we agree with respondents' contention that the electric operations of Des Moines and Iowa Power and Light, located in southern Iowa, should be considered together with the electric operations of Illinois, Iowa and Kewanee as a single integrated electric utility system.

It has been stipulated that these properties are capable of physical interconnection. However, the evidence indicates 458
that they are separately operated and that at present there is no physical connection betwen them except through facilities owned by other companies and running through foreign service territories. There is nothing in the record which would indicate that physical interconnection of the two properties by means of their own facilities is contemplated or is possible within the reasonably near future. The statute defines an integrated electric system as one—

> "consisting of one or more units of generating plants and/or transmission lines and/or distributing facilities, whose utility assets, whether owned by one or more electric utility companies, are physically interconnected or capable of physical interconnection and which under normal conditions may be economically operated as a single interconnected and coordinated system confined in its operations to a single area or region, in one or more States, not so large as to impair (considering the state of the art and the area or region affected) the advantages of localized management, efficient operation, and the effectiveness of regulation." (Section 2(a)(29).) 459

There has been no attempt to show that the Illinois and Iowa properties are at present operated as a "coordinated"

system, or that such operation under "normal" conditions is possible. While we need not here discuss all the possible meanings of the term "normal conditions," certainly it does not refer to conditions which might occur in the remote future, and whose occurrence has not been foreshadowed by any facts shown in the record. Accordingly, we cannot find that the Illinois and Iowa properties together constitute a single integrated electric utility system.

We conclude, therefore, that the electric operations of Illinois Iowa in the four main service territories in northern,
461 central, and southern Illinois, together with the electric operations of Kewanee Public Service Company, constitute those of a single integrated electric utility system within the meaning of the Act. We find further that the electric operations of Illinois Iowa conducted in and around Jacksonville, Enfield, Eldorado, and Cairo constitute four separate and additional integrated electric utility systems, and that the electric operations of Des Moines and Iowa Power and Light constitute still an additional integrated electric utility system.

462 B. *The Additional Utility Systems Retainable by Illinois Traction Company.*

1. *The Additional Electric Utility Systems*—We must consider next whether the four smaller integrated electric utility systems of Illinois Iowa and the integrated electric utility system of Des Moines and Iowa Power and Light are retainable as additional systems to that of the principal system of Illinois Iowa and Kewanee. Since all of these systems are located in Illinois and Iowa, clause (B) does not bar their retention by a single holding company.

We find that the four smaller systems of Illinois Iowa cannot be operated as independent systems without the loss

of substantial economies which can be secured by their retention under joint control together with the principal system of Illinois Iowa and Kewanee; and that the combination of all of these systems under the control of a single holding company is not so large as to impair the advantages of localized management, efficient operation, and the effectiveness of regulation. Accordingly, we hold that the four smaller systems of Illinois Iowa may be retained in addition to the principal system of Illinois Iowa and Kewanee. We cannot find, however, that the electric utility system of Des Moines and Iowa Power and Light can be retained as 464
an additional system under the statute.

The principal argument advanced with respect to retention of the electric utility system of Des Moines and Iowa Power and Light is based on the claim, already disposed of, that it and the electric properties of Illinois Iowa constitute a single system. However, Light & Power has also requested findings that the electric utility system of Des Moines and Iowa Power and Light cannot be operated independently without the loss of substantial economies and that the combination of these properties together with the electric operations of Illinois Iowa and Kewanee would satisfy clause 465
(C).

The testimony of C. A. Leland, president of both the Des Moines and Iowa Power and Light companies, is cited to us for the proposition that substantial economies would be lost by a severance of the systems. We can find no support in the record for this claim. Some of this testimony represents the witness' opinion as to the advantages of holding companies generally. Some of it is evidence of contact with North American and its direct subsidiaries—of little value in assessing the relationship between the Illinois Iowa and

the Des Moines and Iowa Power and Light systems. Neither system has any substantial contacts in respect of its operations with either Illinois Traction Company or Light & Power.[53] The evidence respecting the relationship between the two systems does show that the Des Moines and Iowa Power companies pay salaries to certain personnel of Illinois Iowa for services performed.[54] However, upon careful consideration of the record, we cannot find that it has been shown that severance of the affiliation of these systems would deprive either of them of irreplaceable services, or involve
467 such an increase, if any, in the cost of benefits now received from intra-system contacts that the loss of substantial economies would result from the operation of each as an independent system.

Since we cannot find that clause (A) would be satisfied by the retention of both systems under common control, we must order Illinois Traction Company to divest itself of the electric utility system operated by Des Moines and Iowa Power and Light.

It may be appropriate also to cite one important factor which bears on the question whether the retention of the
468 Illinois and Iowa systems in combination would meet the standards of clause (C).

It has been stated that the Iowa companies are subject to regulation by the Iowa State Commerce Commission with respect to the routing of gas and electric transmission lines

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[53]The only evidence of any such contact is that of a single instance of aid by Allen Van Wyck, president of Light & Power, in a Des Moines financing in 1938.

[54]This evidence shows instances of engineering and chemical consultation and aid to Des Moines in 1936 and 1939, assistance in rate matters, exchange of advertising and other promotion information, and aid in accounting and taxation problems.

and the standards of their construction. However, rates are not centrally regulated but are the subject of negotiation with individual communities served by the Iowa companies. The absence of such central regulation makes it particularly necessary to apply rigorously the standards of clause (C) to insure the localization of each system's policy determinations. When the making of policy is in the hands of men who are not in their daily business activities responsive to local public feeling, and when the great resources of holding companies are pitted against local communities in their attempts at regulation, the growth of the holding company 470 results in a direct impairment of "effective public regulation." (See Section 1(b)(5).) Section 11(b)(1) is designed to limit such growth and to correct such situations where they exist at present. It must be interpreted to achieve that result. For that reason alone we could not find that the combination of the Illinois and Iowa systems under joint control would meet the standards of clause (C).

2. *The Additional Gas Utility Systems*[55]—All of the four electric utility subsidiaries of Illinois Traction Company (*i.e.*, Illinois Iowa, Kewanee, Des Moines, and Iowa Power 471 and Light) are also gas utility companies. Another subsidiary, Cahokia Manufacturers Gas Company, owns only gas facilities which are leased to Illinois Iowa.

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[55]We have been asked to find that all of the electric and gas operations of Illinois Traction's subsidiaries in Illinois and Iowa taken together constitute a single integrated system. This request must be rejected. First, we have already pointed out that gas and electric properties may not be retained together as parts of a *single* integrated system. *Columbia Gas & Electric Corporation*, 8 S. E. C. —— (1941), Holding Company Act Release No. 2477; *The United Gas Improvement Company, et al.*, 9 S. E. C. —— (1941), Holding Company Act Release No. 2692. Second, we have held that the combination of the electric properties alone cannot be regarded as a single system.

472 Illinois Iowa and Kewanee, in 1940, distributed gas to 54 communities in 11 isolated areas in the State of Illinois. A total of 99,600 gas customers was served with 23,320,000 therms of gas, and these sales accounted for approximately 15% of the $21,605,000 aggregate operating revenues on a consolidated basis of these companies. The only territory served with gas by Illinois Iowa and Kewanee, which is not also served with electricity, lies in and around East St. Louis. Eight gas production plants are owned and, in 1940, gas was also purchased from three unaffiliated sources. It is
473 stated that the flow of gas from all sources is centrally directed from Decatur.

The gas facilities owned by Illinois Iowa and Kewanee consist of relatively small separate branch transmission lines serving separate retail systems and a transmission line fed with enriched manufactured gas out of East St. Louis. The transmission lines serving the various retail areas in Illinois are not generally physically interconnected. As of December 31, 1940, the total book value of fixed assets used in the electric operations of Illinois Iowa and Kewanee was $65,614,537, and the book value of fixed assets used in the
474 gas operations was $22,806,652.

We need not decide now, and indeed the evidence is such that we cannot decide, the number or the confines of the integrated gas utility systems controlled by Illinois Iowa, Kewanee, and Cahokia Manufacturers Gas Company. Their retention, together with the retainable electric operations of Illinois Iowa Kewanee, would not be barred by clause (B) since, except for the territory of East St. Louis, the gas operations cover the same area as the retainable electric operations. The evidence introduced to show that the standards of clauses (A) and (C) have been met indicates some

evidence of joint use of facilities, personnel, and management. But, here again, we do not think the record contains an adequate exploration of the relevant evidence bearing on this question. (Compare the discussion *supra*, pp. ——, of the retainability of the gas operations of the Union group and St. Louis County Gas Company.) We have therefore decided not to make any findings on this matter at this time. The record will be reopened for the purpose of receiving further evidence bearing on the permissibility under the Act of retention of these gas operations in addition to the retainable electric operations of Illinois Iowa and Kewanee. Our 476 order setting the date for the further hearing will contain a statement of the specific matters on which we desire to have additional evidence presented.

There is no evidence in the record which would permit us to find that the gas operations conducted by Des Moines and Iowa Power and Light may be retained. The evidence introduced in this respect deals only with the relationship existing between the gas and electric operations of these two companies. We have already held that these electric properties must be disposed of, and we cannot find that their gas operations meet the standards of clauses (A), (B), and 477 (C) in relation to the properties of Illinois Iowa, Kewanee, or Cahokia Manufacturers Gas Company.

C. *The "Other Businesses" Retainable by Illinois Traction Company*—Non-utility operations in the Illinois Traction system are conducted by Western Illinois Ice Company, a direct non-utility subsidiary of Illinois Traction Company, by Illinois Iowa and two of its subsidiaries, Illinois Terminal Railroad Company and Central Terminal Company, and by Des Moines Electric Light Company.

1. *Illinois Traction's Direct Non-Utility Subsidiary.*

(a) *Western Illinois Ice Company*—This company operates ice manufacturing plants in Galesburg and Kewanee, Illinois. Its net operating revenues in 1940 amounted to $35,603. It purchases current from Illinois Iowa and certain services are performed for it by Illinois Iowa personnel. Illinois Traction, which holds all its common stock, carried that investment at December 31, 1940, at $235,755. No claim has been made that retention of this business is warranted
479 under the "other business" clauses, and, on the record before us, we cannot find, under the standards of Section 11(b)(1), that its retention is reasonably incidental, or economically necessary or appropriate to the operations of any retainable utility system of Illinois Traction. Accordingly, divestment thereof must be required.

2. *"Other Businesses" of Illinois Iowa.*

(a) *Steam heating business*—Seven communities in the service territory of the electric operations of Illinois Iowa are supplied with steam generated in boilers located in elec-
480 tric generating stations, and operated by personnel also engaged in the electric operations. The business produced net revenues before taxes and depreciation of $70,118 in 1940, and had an aggregate of $1,975,330 of assets at December 31, 1940. The supplying of steam is intimately related to the operations of the electric utility systems of the company, and we find that the business is retainable as reasonably incidental, or economically necessary or appropriate to such operations.

(b) *Water business*—Water service is rendered in three communities which are in the service areas of Illinois Iowa's

481

electric operations. This business produced net operating revenues, in 1940, of $30,210. As of the end of 1940, the book value of fixed assets used in the business was $1,371,598. In one of the communities served (Marseilles), pumping equipment is located in one of Illinois Iowa's generating stations. All energy used in the water business is supplied by Illinois Iowa. It is stated that though efforts have been made to sell this water business, it has been found "almost impossible" to procure an "even approximately satisfactory" offering, and that the Illinois Commerce Commission would not permit an abandonment of the business.

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We have already noted that arguments based on the asserted difficulty of disposition of a property are irrelevant in a consideration of whether it may be retained under the standards of Section 11(b)(1). Such arguments are pertinent only to the question when compliance with a divestment order should be enforced. The only other claims asserted to support the retention of this business are that it is a customer of Illinois Iowa and that it maintains some of its equipment in one of Illinois Iowa's generating stations. We cannot find that these facts show such a relationship between this water business and the operations of the retainable utility operations as would justify a finding that retention of this business meets the standards of Section 11(b)(1). We must therefore order its divestment.

483

(c) *Ice business*—Illinois Iowa operates ice manufacturing plants in five Illinois communities. These operations produced net operating revenues before taxes and depreciation in 1940 of $10,357. Current for the business is provided by Illinois Iowa.

No claim has been made that this business is retainable and since we cannot find that it is reasonably incidental, or

economically necessary or appropriate to the operations of the retainable utility systems, our order will require its divestment.

(d) *Oil drilling*—Certain territory around Centralia (in the area of Illinois Iowa's electric operations) is proven oil land. Illinois Iowa has constructed three oil wells in this territory and invested about $56,000. They have produced, since their operation, an income, after all expenses and taxes, of $60,000. The oil has, to some extent, been used in the
485 Centralia gas plant of the company for the production of carburetted water gas. It has, it is claimed, also been used in other plants of the company after having been repurchased from the pipe line company to which it was sold.

On the basis of the record before us, we cannot find that a sufficient relationship between this oil business and the operations of the retainable utility systems has been shown to justify a finding that retention of the oil business meets the standards of Section 11(b)(1). Accordingly, its divestment must be ordered.

(e) *Transportation business*—Illinois Iowa conducts a
486 street railway, trolley, and gasoline motor bus service in Peoria, Illinois, which is outside its utility service territory. Power for these properties has been purchased from unaffiliated sources. The business produced, in 1940, net operating revenues before taxes and depreciation of $196,436 on an investment in fixed assets carried at $5,392,000. It has been stated that attempts have been made to sell the properties, but that the prices offered have not been deemed sufficient.

The record does not warrant a finding that retention of this business is reasonably incidental, or economically necessary or appropriate to the operations of the retainable utility systems of Illinois Traction. Its divestment must be ordered.

487

(f) *Illinois Terminal Railroad Company and Central Terminal Company*—Illinois Terminal Railroad Company is an Illinois corporation organized in 1937 to take over the consolidated properties of five railroad companies. Its general office is in St. Louis, Missouri, and its property is located in Missouri and Illinois. As of December 31, 1940, the Railroad Company had outstanding:

Funded Debt	$14,229,000
Advances from Illinois Iowa	492,325
Common Stock	25,000,000

488

All of its common stock is held by Illinois Iowa.

Central Terminal Company owns and operates a warehouse and office building in St. Louis in which terminal facilities are supplied. These latter facilities are leased to the Railroad Company. The Terminal Company also conducts certain minor real estate operations. As of December 31, 1940, the book value of its fixed assets amounted to $6,901,286. As of the same date, the Terminal Company had outstanding:

489

Funded Debt	$ 725,000
Advances from Illinois Iowa	4,648,063
Common Stock	1,000,000

All of its common stock is held by Illinois Iowa.

The Railroad Company operates a steam and electric road whose tracks form a web around St. Louis and East St. Louis and run thence up to Peoria, in central Illinois, form a loop at Springfield, Mackinaw, Bloomington, and

Decatur, and run eastward into Danville.[56] It is a standard gauge road and its freight equipment is interchangeable with any road using standard equipment. It is subject to the jurisdiction of the Interstate Commerce Commission.

The Railroad Company also owns a dock and barge loading plant at Alton, Illinois, used primarily for the loading of barges for the Mississippi coal and coke traffic. In addition, it runs passenger busses between East St. Louis and Granite City, Illinois, and owns a toll and railroad bridge (the McKinley Bridge) across the Mississippi River. As of December 31, 1940, the total book value of all its fixed assets was $51,728,769.

The arguments made for retention of the Railroad Company's properties are (1) that prior to 1923 certain electric and railroad facilities in Illinois Iowa's service area were jointly owned; (2) that the Railroad Company is the largest customer of Illinois Iowa; (3) that much equipment owned by Illinois Iowa is primarily devoted to serving the road and that telephone facilities owned by the road are also used by Illinois Iowa; (4) that certain joint facilities are cared for by joint personnel; (5) that economies result from common ownership; and (6) that it is difficult to sell the railroad properties. No argument for retention of the Terminal Company is made save that it should "obviously" be under common control with the railroad.

We have discussed at some length the criteria which we think are relevant to the question whether various interests

[56] The properties of this company also include an electric railway line between St. Louis and Alton, formerly owned by St. Louis & Alton Railway Company (a wholly-owned subsidiary of Union Electric Company of Missouri) and leased to Illinois Terminal. On December 31, 1940, St. Louis & Alton Railway sold these properties to Illinois Terminal and on April 18, 1941, St. Louis & Alton was dissolved.

may be retained under the "other business" clauses of Section 11(b)(1) (see pp. — · —, *supra*), and have already disposed of contentions identical with those made here. A showing of historical relationship between the railroad and the electric facilities of Illinois Iowa, the fact that the railroad is its largest customer, and the alleged difficulty of disposing of the railroad properties have no bearing on this question. The use of certain joint facilities and the economies resulting from common ownership do have some pertinency but, after careful analysis of the evidence and arguments presented, we cannot find that the relationship of the Railroad and Terminal properties to the operations of the retainable utility systems of Illinois Traction is such as to warrant retention of these railroad and real estate properties under the control of a registered public utility holding company.

We have consisted the applicability of the "other business" clauses of Section 11(b)(1) to a railroad business controlled by the Union group and, under facts showing a very close relationship between the railroad business and the utility system, we concluded that the railroad business could be retained. (See pp. ——, *supra.*) There are no comparable facts here. We cannot find under Section 11(b)(1) that the Railroad and Terminal companies' businesses are reasonably incidental, or economically necessary or appropriate to the operations of any integrated public utility system retainable by Illinois Traction. Accordingly, we must order Illinois Traction and Illinois Iowa to divest themselves of these interests.

(g) *Dormant companies*—Certain direct subsidiaries of Illinois Iowa, which have no tangible assets and do no business, have been kept in existence for the purpose of preserving franchises in areas in which Illinois Iowa conducts its

gas business,[57] or because unsettled claims against them are outstanding.[58] One of these companies, the Venice Gas Company, has assigned its franchise to Illinois Iowa and that company now operates under the franchise.

It has been stated that these companies will be "dissolved as soon as circumstances permit." The ownership of franchises in the area served by Illinois Iowa appears to be closely related to the gas operations of the system and since we have determined to reserve decision with respect to the
497 gas operations, we shall also reserve judgment as to these companies. As to St. Louis Electric Terminal Railway Company, since it does no business whatsoever, and since it is merely being kept alive in connection with the settlement of outstanding claims, we must require that it be separated from the Illinois Traction system by dissolution or otherwise.

3. *"Other Businesses" of Des Moines Electric Light Company*—The only non-utility business engaged in by Des Moines and its subsidiary, Iowa Power and Light, is a heating business. The evidence with respect to this business deals only with its relationship to the utility operations of
498 Des Moines and Iowa Power and Light. Since we have concluded that these utility operations must be disposed of, we cannot find, under Section 11(b)(1), that this heating business is reasonably incidental, or economically necessary or appropriate to the operations of any retainable utility system of Illinois Traction Company.

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[57]These companies are Cairo City Gas Company, Champaign and Urbana Gas Light and Coke Company, Decatur Electric Company, Danville Gas Light Company, The Jacksonville Gas Light & Coke Company, Jacksonville Railway and Light Company.

[58]These companies are St. Louis Electric Terminal Railway Company and Venice Gas Company.

499

Conclusions with Respect to the Illinois Traction System—In accordance with the foregoing, Illinois Traction Company and Illinois Iowa Power Company will be ordered to divest themselves of all holdings, direct and indirect, of the securities of Des Moines Electric Light Company and Iowa Power and Light Company. Illinois Traction will also be required to divest itself of all of its holdings of securities of Western Illinois Ice Company; and Illinois Traction and Illinois Iowa will be directed to dispose of the water, ice, oil drilling, and transportation business of Illinois Iowa, the railroad, terminal, and real estate businesses of Illinois Iowa's subsidiaries, Illinois Terminal Railroad Company and Central Terminal Company, and the securities of St. Louis Electric Terminal Railway Company.

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As we have indicated, Illinois Traction and Illinois Iowa will be afforded a further opportunity to present argument, should they so desire, on the appropriateness of the choice of the electric operations of Illinois Iowa and Kewanee as their "principal system"; and our order, insofar as it requires divestment by Illinois Traction and Illinois Iowa, will be subject to modification if, after presentation of further argument or evidence in this respect, such modification appears necessary. We shall order a further hearing on the question whether the gas properties of Illinois Iowa, Kewanee and Cahokia (and the dormant companies kept alive for franchise reasons) may be retained in combination with the retainable electric properties.

501

VII. The Holding Company System of Illinois Iowa Power Company

Illinois Iowa is not only an operating company and a subsidiary of Illinois Traction, but is itself a registered

holding company heading a large system. However, all of the problems which arise in the application of the standards of Section 11(b)(1) to Illinois Iowa's holding company system have already been discussed and disposed of in connection with our discussion of the Illinois Traction system.

Subject to any further argument which may be requested as to the appropriateness of the choice of its "principal system," we have held that Illinois Iowa may retain its directly owned electric and steam heating properties. Our order will require the divestment of its water, ice, oil drilling, and
503 transportation businesses and the divestment of its holdings, direct and indirect, of the securities of Des Moines Electric Light Company, Iowa Power and Light Company, Illinois Terminal Railroad Company, Central Terminal Company, and St. Louis Electric Terminal Railway Company. We are reserving our decision with respect to the retainability of the gas properties of Illinois Iowa, Kewanee and Cahokia and the dormant companies kept alive for franchise reasons.

VIII. The Holding Company System of Des Moines Electric Light Company

504

Des Moines, a subsidiary of Illinois Iowa Power Company, is itself a registered holding company and a respondent in this proceeding. Des Moines is a Maine corporation organized in 1909. Its properties and those of its wholly-owned subsidiary, Iowa Power and Light Company, are located entirely in Iowa.

The territory served with electricity by Des Moines and Iowa Power and Light contains about 3,240 square miles. It is a solid area running 102 miles east to west, and 52 miles north to south. It has a total population of about 290,000. The companies serve 101 communities and inter-

vening rural areas, 99 with electricity, 8 with gas, and 1 with steam heat. The property devoted to the electric business represents 75.7% of the total of the properties of both companies; 23.6% of the properties are devoted to the gas and .7% to the heating businesses. Both companies own production, transmission, and distribution units.

A. *The Principal and Additional Systems of Des Moines* —Both companies own generating facilities (steam and hydro) which are interconnected and are also connected with the companies' transmission and distribution facilities. 506 These operations of both companies are conducted as a unit and, accordingly, we find that their electric operations constitute those of a single integrated electric utility system. The only question with respect to the retention of additional systems arises in connection with the gas business of the companies. Both Des Moines and Iowa Power and Light serve a total of eight communities with natural and manufactured gas. In 1940, 39,900 gas customers were served with 12,900,000 therms of gas. These operations accounted for 24% of the total operating revenues of the two companies. 93% of the gas customers of both companies reside in Des 507 Moines.[59]

We find that the gas operations of Des Moines and Iowa Power and Light constitute those of a single integrated gas utility system. However, for reasons similar to those mentioned in our discussion of the retainability of the gas operations of the Union group and those of Illinois Iowa,

[59]For the year ending December 31, 1940, total operating revenues for both companies from all sources were $7,086,710; $5,357,563 of this amount is accounted for by the electric business and $1,697,158 by the gas business. The book value of the companies' assets as of December 31, 1940, was $39,846,543, 23.6% of which was devoted to the gas business.

Kewanee and Cahokia (see pp. , *supra*), we will not at this time pass upon the question whether the gas operations of Des Moines and Iowa Power and Light may be retained as a system additional to their integrated electric system. The record will be reopened for the introduction of further evidence bearing on that question.

B. *The "Other Businesses" Retainable by Des Moines*—The only non-utility business engaged in by Des Moines and Iowa Power and Light is the rendition of heating service in
509 Oskaloosa, Iowa. In 1940 this business accounted for $31,989 of revenue. Boilers used for heating service are located in a station which is used also as a point of connection between the main electric transmission system of the company and the Oskaloosa distribution system. Personnel used in the station operate both the electric and steam services. We find that this heating business is reasonably incidental, or economically necessary or appropriate to the operations of the retainable utility systems of Des Moines.

Conclusions with Respect to Des Moines—Subject to the further hearing with respect to the retainability of the gas
510 operations, it will be unnecessary for Des Moines or Iowa Power and Light to take any action to comply with the requirements of Section 11(b)(1) of the Act.

Summary of Conclusions and Nature of Order

This summary of conclusions will indicate those interests and businesses, directly or indirectly held, controlled or operated, which must be disposed of by the various registered public utility holding companies in the North American system in order to comply with Section 11(b)(1) in accordance with our findings and opinion.

Each of the registered holding companies in the system will be ordered to sever its relationship with the companies set forth below its name by disposing, or causing the disposition, in any appropriate manner not in contravention of the applicable provisions of the Act or the rules and regulations promulgated thereunder, of its direct or indirect ownership, control, or holding of securities issued and properties owned, controlled or operated by the said companies:

I. *The North American Company*

512

Union Electric Land and Development Company
East St. Louis & Suburban Railway Company
East St. Louis Railway Company
Wisconsin Electric Power Company
The Milwaukee Electric Railway & Transport Company
Motor Transport Company
Badger Auto Service Company
Wisconsin Gas & Electric Company
Wisconsin-Michigan Power Company
Milwaukee Light, Heat & Traction Company 513
Hevi-Duty Electric Company
The Cleveland Electric Illuminating Company
The Power & Light Building Company
The Ceico Company
North American Light & Power Company
The Kansas Power and Light Company
Missouri Power & Light Company
The Blue River Power Company
The McPherson Oil and Gas Development Company
Power & Light Securities Company
North American Oil and Gas Company

Northern Natural Gas Company
Argus Natural Gas Company, Inc.
Peoples Natural Gas Company
Illinois Traction Company
Kewanee Public Service Company
Cahokia Manufacturers Gas Company
Western Illinois Ice Company
Illinois Iowa Power Company
Des Moines Electric Light Company
515 Iowa Power and Light Company
Illinois Terminal Railroad Company
Central Terminal Company
Cairo City Gas Company
Champaign and Urbana Gas Light and Coke Company
Danville Gas Light Company
Decatur Electric Company
The Jacksonville Gas Light & Coke Company
Jacksonville Railway and Light Company
St. Louis Electric Terminal Railway Company
Venice Gas Company
516 Washington Railway and Electric Company
Potomac Electric Power Company
Great Falls Power Company
The Washington and Rockville Railway Company of Montgomery County
Braddock Light & Power Company, Incorporated
Capital Transit Company
Montgomery Bus Lines, Incorporated
The Glen Echo Park Company
West Kentucky Coal Company (New Jersey)
West Kentucky Coal Company (Delaware)
Peoples Coal Company

517

St. Bernard Coal Company
North American Utility Securities Corporation
Pacific Gas and Electric Company and its subsidiaries
The Detroit Edison Company and its subsidiaries.

The operations of the North American system will thus be limited to the electric, gas (pending further action), and steam heating operations of the Union group, the coal business of Union Colliery Company, the transportation business of St. Louis & Belleville Electric Railway Company, and the building owned by 60 Broadway Building Corporation. 518
Further hearings will be held with respect to the retainability of the gas operations of the Union group and St. Louis County Gas Company, and with respect to the retainability of 60 Broadway Building Corporation.

North American will be afforded further opportunity to present additional argument or evidence, if it so desires, with respect to the choice of its principal system.

II. *Union Electric Company of Missouri*

Union Electric Land and Development Company
East St. Louis & Suburban Railway Company 519
East St. Louis Railway Company.

The operations of the Union Electric system will thus be limited to the electric, gas (pending further action), and steam heating operations of the Union group, the coal business of Union Colliery Company, and the transportation business of St. Louis & Belleville Electric Railway Company. Further hearings will be held with respect to the retainability of the gas operations of the Union group and St. Louis County Gas Company.

520

III. *Washington Railway and Electric Company*

Great Falls Power Company
Capital Transit Company
Montgomery Bus Lines, Incorporated
The Glen Echo Park Company.

The operations of the Washington Railway and Electric Company system will be limited to the electric utility operations of Potomac Electric Power Company and Braddock
521 Light & Power Company, Incorporated.

IV. *The Washington and Rockville Railway Company of Montgomery County*

Great Falls Power Company.

The operations of the Washington and Rockville system will thus be limited to the electric utility operations of Braddock Light & Power Company, Incorporated.

V. *Northern Natural Gas Company*

522 Argus Natural Gas Company.

The operations of the Northern Natural Gas system will thus be limited to the gas operations of Peoples Natural Gas Company, and the gas production and transmission facilities of Northern Natural Gas Company.

Northern Natural Gas Company will be afforded the further opportunity to present argument as to whether it wishes to retain the Argus system rather than Peoples as its principal system.

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VI. *Illinois Traction Company*

Western Illinois Ice Company
Des Moines Electric Light Company
Iowa Power and Light Company
Illinois Terminal Railroad Company
Central Terminal Company
St. Louis Electric Terminal Railway Company.

Illinois Traction Company and Illinois Iowa Power Company will also be ordered to divest themselves of any interest, direct or indirect, in the water, ice, oil drilling and transportation businesses now engaged in by Illinois Iowa Power Company.

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The operations of the Illinois Traction system will thus be limited to the electric and gas operations of Illinois Iowa Power Company and Kewanee Public Service Company, the gas operations of Cahokia Manufacturers Gas Company, and the steam heating business of Illinois Iowa Power Company. Further hearings will be held with respect to the retention of the gas operations.

Illinois Traction Company will be afforded a further opportunity to present evidence and argument on the question whether any single integrated utility system other than the major integrated electric utility system of Illinois Iowa Power Company and Kewanee Public Service Company shall serve as its principal system.

525

VII. *Illinois Iowa Power Company*

Des Moines Electric Company
Iowa Power and Light Company
Illinois Terminal Railroad Company

Illinois Iowa Power Company will also be ordered to divest itself of any interest held, directly or indirectly, in any non-utility business except the steam heating business which it now operates.

The operations of the Illinois Iowa Power Company system will thus be limited to its own electric, gas (pending further action), and steam heating businesses. Further hear-
527 ings will be held with respect to the retainability of the gas business.

Illinois Iowa Power Company will be afforded a further opportunity to present evidence and argument on the question whether any single integrated utility system now controlled by it other than the major electric utility system designated as its principal system in this opinion shall serve as its principal system.

VIII. *Des Moines Electric Light Company,* as a registered holding company, need take no action at this time to comply
528 with the requirements of Section 11(b)(1). Further hearings will be held with respect to the retention of the gas operations of Des Moines and Iowa Power and Light.

Our order will provide that its entry, publication and service shall be without prejudice to the right of the Commission, and that jurisdiction shall be reserved, to issue such other and further orders as may be necessary or advisable for securing compliance with the provisions of the Act and the rules and regulations thereunder, and in carrying out the provisions of the order. Our order will further provide that it shall in no way affect the conduct of such proceedings and the entry of such orders as the Commission shall deem

necessary and appropriate under Section 11(b)(2) of the Act.

* * *

At various points in this opinion and in connection with our discussion of the retention of various interests, we have adverted to respondents' claims of alleged difficulties in disposing of such interests. We have stated, and we again emphasize the fact, that, under the standards of the Act, difficulties of disposition have no bearing at all on whether any particular interest is retainable; and that such difficul- 530
ties are pertinent only to the question *when* compliance with our order of divestment should be enforced. Consequently, respondents' references to adverse market conditions for the sale of securities have no relevancy whatever *at this time*. The statute provides a year within which respondents may comply with our order. Furthermore, on an appropriate showing (which would certainly include a showing that bona fide attempts to dispose of properties had been prevented by adverse market conditions), we may grant an additional year for compliance. And even at that time our orders under Section 11(b)(1) are not self-enforcing. For under the Act 531
compulsory compliance can occur only after the Commission makes application to a court.

It is appropriate also to point out once again that compliance with our Section 11(b)(1) orders need not always be effected by the outright sale of properties for cash. It seems clear that a very large part of the divestments and dispositions necessary to comply with Section 11(b)(1) and our orders thereunder may be effectuated by stock dividends, by exchanges of portfolio securities with the security holders of the holding company, and through the exchange of prop-

532 *Findings and Opinion of the Commission*

erties between systems. It may be that these methods in practice will overshadow sales.

By the Commission (Chairman Purcell, Commissioners Healy, Pike, and Burke), Commissioner O'Brien not participating.

FRANCIS P. BRASSOR

Francis P. Brassor,
Secretary.

533

Per:
ORVAL L. DU BOIS

(SEAL)

534

APPENDIX A

The following tabulation shows the place and date of organization and the nature of the business of each of the Companies in The North American Company System:

As of December 31, 1940.

Name of Company	*State of Organization and Date Thereof*		*Kind of Business*
The North American Company	N. J.	June 1890	Holding Company
Union Electric Company of Mo.	Mo.	Nov. 1922	Electric utility and heating company: also holding company 536
Union Electric Co. of Ill.	Ill.	July 1908	Electric and gas utility company
Union Colliery Company	Mo.	July 1917	Coal company
Mississippi River Power Co.	Mo.	Aug. 1910	Electric utility company
Iowa Union Electric Co.	Ill.	Dec. 1911	Electric and gas utility company
Cupples Station Light, Heat and Power Company	Mo.	Nov. 1896	Inactive
Union Electric Land and Development Company	Mo.	July 1929	Land company
St. Louis & Belleville Electric Railway Company	Ill.	July 1897	Electric railway company
St. Louis & Alton Railway Co.	Ill.	June 1926	None—inactive 537
East St. Louis & Suburban Railway Company	Ill.	Dec. 1893	None—inactive
East St. Louis Railway Co.	Ill.	May 1902	None—inactive
The St. Louis County Gas Co.	Mo.	Mar. 1912	Gas utility company
Wisconsin Electric Power Co.	Wis.	Jan. 1896	Electric utility and heating company
The Milwaukee Electric Railway & Transport Company	Wis.	Oct. 1938	Transportation company
Motor Transport Company	Wis.	Mar. 1919	Freight transportation company
Badger Auto Service Co.	Wis.	Jan. 1923	Parking stations and gasoline filling stations

Name of Company	*State of Organization and Date Thereof*		*Kind of Business*
Wisconsin Gas & Electric Co.	Wis.	June 1866	Electric and gas utility, heating and transportation company
Wisconsin Michigan Power Co.	Wis.	May 1911	Electric and gas utility and transportation company
Milwaukee Light, Heat & Traction Company	Wis.	Dec. 1896	Land company
Hevi-Duty Electric Company	Wis.	Nov. 1924	Electric furnace construction
539			
The Cleveland Electric Illuminating Company	Ohio	Sept. 1892	Electric utility and heating company
The Power & Light Bldg. Co.	Ohio	Mar. 1911	Real estate company
The Ceico Company	Ohio	Mar. 1929	Land and metering company
North American Light & Power Company	Del.	June 1924	Holding Company
The Kansas Power and Light Co.	Kan.	Mar. 1924	Electric and gas utility, heating, water, ice and transportation company
540 Missouri Power & Light Co.	Mo.	Dec. 1911	Electric and gas utility, heating, water and ice company
The Blue River Power Company	Del.	Oct. 1928	Electric utility company
Nebraska Natural Gas Co.	Neb.	May 1929	Gas utility company
The McPherson Oil & Gas Development Company	Kan.	May 1927	Gas production company
Power & Light Securities Co.	Del.	May 1928	Miscellaneous investments
North American Oil and Gas Co.	Del.	May 1930	None—inactive
Illinois Traction Company	Me.	May 1904	Holding company
Kewanee Public Service Co.	Ill.	Feb. 1924	Electric and gas utility company

Name of Company	*State of Organization and Date Thereof*		*Kind of Business*
Cahokia Manufacturers Gas Co.	Ill.	Jan. 1855	Owns gas distribution facilities leased to Illinois Iowa Power Co.
Western Illinois Ice Co.	Ill.	Apr. 1927	Ice company
Illinois Iowa Power Company	Ill.	May 1923	Electric and gas utility, heating, water, ice and transportation company; also holding company 542
Des Moines Electric Light Co.	Me.	July 1909	Electric and Gas utility and heating company; also holding company
Iowa Power and Light Co.	Ia.	Oct. 1924	Electric and gas utility company
Illinois Terminal Railroad Company	Ill.	Oct. 1927	Railroad company
Central Terminal Co.	Mo.	Mar. 1929	Warehouse company
Chicago and Illinois Valley Railroad Co.	Ill.	Sept. 1928	None—inactive
Cairo City Gas Company	Ill.	Feb. 1865	None—inactive
Champaign and Urbana Gas Light and Coke Company 543	Ill.	Feb. 1867	None—inactive
Danville Gas Light Company	Ill.	Feb. 1867	None—inactive
Decatur Electric Company	Ill.	Mar. 1887	None—inactive
The Jacksonville Gas Light & Coke Company	Ill.	Feb. 1855	None—inactive
Jacksonville Railway and Light Company	Me.	Nov. 1905	None—inactive
St. Louis Electric Terminal Railway Company	Mo.	Mar. 1906	None—inactive
Venice Gas Company	Ill.	Dec. 1924	None—inactive
Northern Natural Gas Company	Del.	Apr. 1930	Gas pipe line company; also holding company

Name of Company	*State of Organization and Date Thereof*		*Kind of Business*
Argus Natural Gas Co., Inc.	Kan.	May 1930	Gas utility company
Peoples Natural Gas Co.	Del.	May 1930	Gas utility company
Washington Railway and Electric Company	Act of Congress	July 1892	Holding company
Potomac Electric Power Co.	D. C.	Apr. 1896	Eelectric utility company
Great Falls Power Co.	Va.	Mar. 1894	Land company
The Washington and Rockville Railway Co. of Montgomery Co.	Md.	Sept. 1897	Holding company
Braddock Light & Power Company, Inc.	Va.	Aug. 1909	Electric utility company
Capital Transit Company	D. C.	Sept. 1933	Transportation company
Montgomery Bus Lines, Inc.	Md.	Nov. 1927	Transportation company
The Glen Echo Park Co.	Md.	Apr. 1911	Amusement park
The Detroit Edison Company	N. Y.	Jan. 1905	Electric utility and holding company
The Edison Illuminating Co. of Detroit	Mich.	—	Holds title to non-utility assets
Huron Farms Company	Mich.	—	Land company
Essex County Light and Power Co.	Canada	—	Inactive
The Peninsular Electric Light Company	Mich.	—	Inactive
St. Clair Edison Company	Mich.	—	Inactive
The Washtenaw Light and Power Company	Mich.	—	Inactive
Pacific Gas and Electric Co.	Calif.	—	Electric utility and holding company
Valley Electric Supply Co.	Calif.	—	—
Arlington Properties Co. Ltd.	Calif.	—	—
Vallejo Electric Light and Power Company	Calif.	—	—
San Joaquin Light and Power Corporation	Calif.	—	Inactive
Standard Pacific Gas Line Inc.	Del.	—	Inactive

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Name of Company	*State of Organization and Date Thereof*		*Kind of Business*
ther Non-Utility Subsidiary Companies of the Registrant			
est Kentucky Coal Company	N. J.	June 1905	Coal company
West Kentucky Coal Company	Del.	Nov. 1924	Coal sales company
Peoples Coal Company	Neb.	Apr. 1916	Coal sales company
St. Bernard Coal Company	N. J.	May 1924	Coal sales company
Broadway Building Corporation	N. Y.	Oct. 1924	Real estate company
orth American Utility Securities Corporation	Md.	Dec. 1924	Investment company

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APPENDIX B

Name of Company	*Electric Service Area Square Miles*	*Number of Customers Served*	*Population of Area*
Potomac Electric Power Company	628	200,777	826,000
Braddock Light and Power Company	3	1,866	
Cleveland Electric Illuminating Company	1,700	333,833	1,400,000
Wisconsin Electric Power Company Wisconsin Gas & Electric Company	4,029	252,741 66,472	1,209,600
Wisconsin Michigan Power Company	8,289	38,719	169,900
Union Electric Company of Missouri (and Subsidiaries)	3,100	351,483	1,500,000
The Kansas Power and Light Company	21,500	83,513	244,400
Missouri Power & Light Company	10,900	42,264	144,000
Des Moines Electric Light Company Iowa Power and Light Company	3,240	56,107 9,848	290,000
Illinois Iowa Power Company	15,233	217,571	750,000
Kewanee Public Service Company	100	5,817	
The Detroit Edison Company	7,587(a)	697,767(b)	2,580,000(c)
Pacific Gas and Electric Company (and Subsidiaries)	89,000(a)	759,887(d)	3,000,000(a)
System Total	165,309	3,117,666	12,113,900

Notes:

(a) From Moody's Public Utility Manual (1940)
(b) Item 7, Registration Statement, 2-4600-1
(c) Item 4, Registration Statement, 2-4600-1
(d) Item 7, Registration Statement, 2-1324-1

APPENDIX C

THE NORTH AMERICAN COMPANY AND SUBSIDIARY COMPANIES

CONSOLIDATED INCOME STATEMENT, YEAR ENDED DECEMBER 31, 1940

Operating Revenues:		
Electric	$100,291,261.89	
Heating	3,578,093.72	
Gas	10,471,850.28	
Transportation	9,724,067.76	554
Coal	4,380,855.35	
Miscellaneous	1,828,727.19	
Total Operating Revenues	$130,274,856.19	
Operating Expenses and Taxes:		
Operating Expenses	48,107,162.10	
Maintenance	7,928,137.72	
Taxes, other than Income Taxes	14,854,193.09	
Provision for Income Taxes	8,786,540.00	
Appropriations for Depreciation Reserves	17,041,248.80	
Total Operating Expenses and Taxes	$ 96,717,281.71	
Net Operating Revenues	$ 33,557,574.48	555
Non-Operating Revenues:		
Dividends:		
On Stocks of Washington Railway and Electric Company	2,661,850.90	
On Common Stock of Pacific Gas and Electric Company	4,119,340.00	
On Capital Stock of The Detroit Edison Company	1,472,778.00	
On Common Stock of Northern Natural Gas Company	994,700.00	
On Other Security Investments	186,806.86	

Interest	222,503.91
Net Profit on Merchandise Sales	113,733.73
Net Income from Rentals	50,000.85
Other Income	87,103.71
Total Non-Operating Revenues	$ 9,908,817.96
Gross Income	$ 43,466,392.44
Deductions:	
Interest on Funded Debt	13,725,944.15
Amortization of Discount and Expense on Funded Debt	1,202,601.11
557 Other Interest Charges	74,144.70
Total Interest Charges	$ 15,002,689.96
Less—Interest during Construction charged to Property and Plant	210,033.84
Net Interest Charges	$ 14,792,656.12
Preferred Dividends of Subsidiaries	5,433,164.14
Minority Interests in Net Income of Subsidiaries	1,674,072.49
Other Deductions	1,250,000.00
Total Deductions	$ 23,149,892.75
558 Balance for Dividends and Surplus	$ 20,316,499.69

Basis of Consolidation:

The policy of The North American Company is to include in its consolidated financial statements subsidiary companies in which it holds directly or through subsidiaries voting control and 75% or more of the Common Stock, and to exclude companies in which it does not have voting control although owning 75% of the Common Stock.

THE NORTH AMERICAN COMPANY AND SUBSIDIARIES

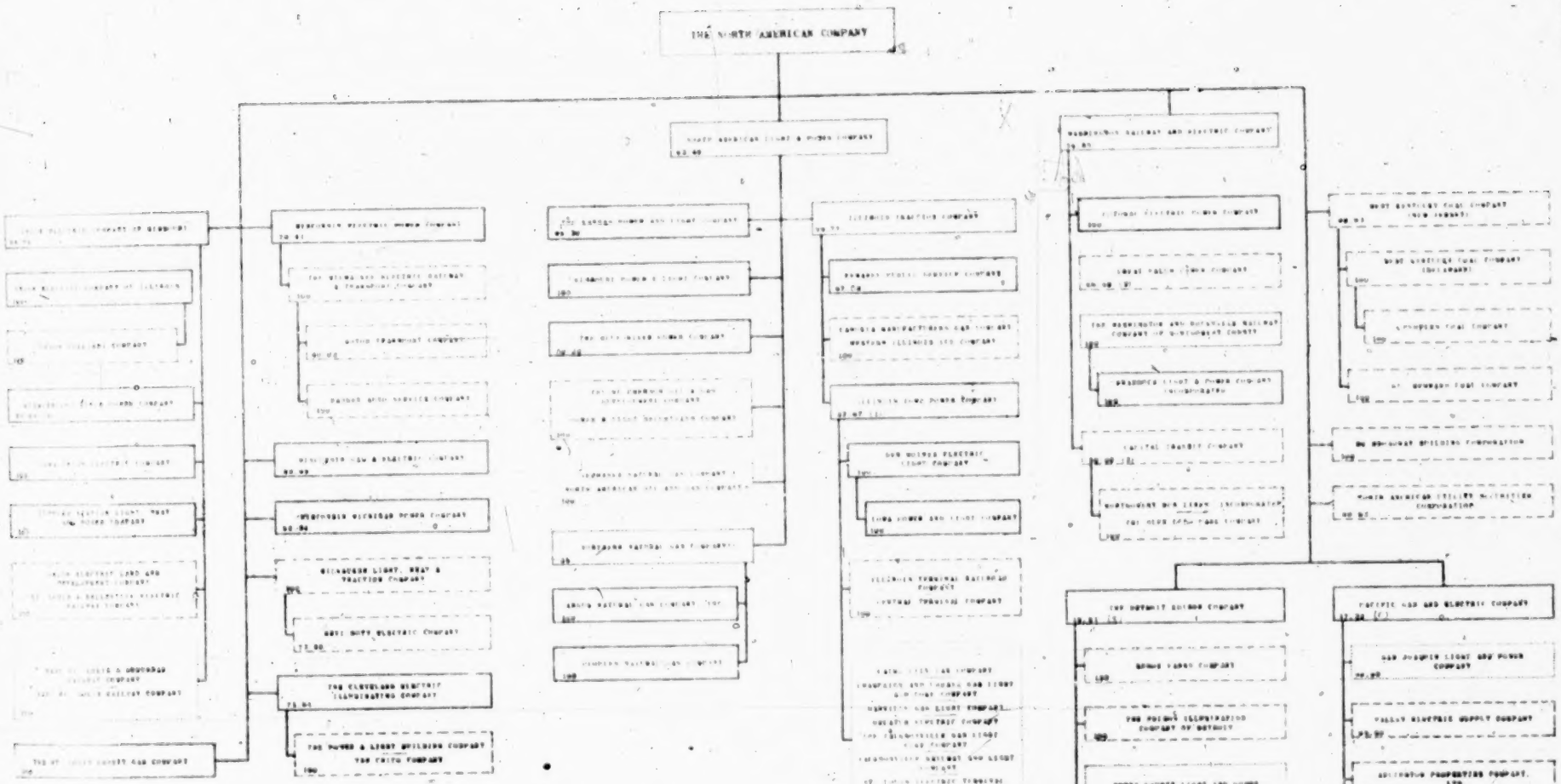
CONDENSED CONSOLIDATED BALANCE SHEET DECEMBER 31, 1940

ASSETS

Property and Plant		
Utility Subsidiaries	$683,880.153	
Other Subsidiaries	22,876,354	
	$706,756,507	
Cash and Securities on Deposit with Trustees	442,993	560
Investments		
Securities of Affiliates	$135,395,546	
Other Securities Investments	10,832,986	
	$146,228,532	
Current and Working Assets		
Cash	$ 47,193,448	
Investments (short term and U. S. Government Securities)	3,503,517	
Deposits by subsidiaries for payment of matured interest, etc.	4,653,566	
Accounts, Notes and Dividends receivable (less Reserve)	14,147,041	561
Materials and Supplies	11,052,272	
	$ 80,549,844	
Discount and Expense	$ 18,955,963	
Commission and Selling Expense	912,517	
Organization Expense of Subsidiaries	1,602,533	
Prepaid Accounts and Other Deferred Charges	1,614,788	
	$957,063,677	

LIABILITIES

Capital Stock of North American Company	
Serial Preferred	
6% Series	$ 30,317,950
5¾% Series	34,819,000
Common Stock	85,726,260
Preferred Stock of Subsidiaries	$107,786,812
Dividends in Arrears on Preferred Stocks of Subsidiaries	5,736,197
Minority Interests in Common Stock and Surplus of Subsidiaries	16,519,122
563 *Funded Debt of The North American Company*	
3½% Debentures, Series due 1949	$ 20,000,000
3¾% Debentures, Series due 1954	25,000,000
4% Debentures, Series due 1959	25,000,000
	$ 70,000,000
Funded Debt of Subsidiaries	$303,165,950
Current and Accrued Liabilities	$ 32,025,846
Contributions by Customers for Construction of Property	$ 1,968,135
Reserves	
For Depreciation and Retirement of Property and Plant	$146,085,757
564 For Contingencies	38,523,188
Other Reserves	8,473,631
	$193,082,576
Paid-in Surplus	312,994
Earned Surplus	75,602,835
	$957,063,677



APPENDIX D

EXPLANATORY NOTES

A light solid line enclosing a company name indicates that the company is a holding company; a heavy solid line indicates a utility company; a broken line indicates a non-utility company; and a dotted line indicates an inactive company or a company in process of dissolution.

The figures shown in the boxes represent percentage of total voting securities held by the immediate parent, including securities having voting rights because of default or arrears.

Minor subsidiaries are omitted.

(1) Utilities Power & Light Securities holds 1.07%, North American Light & Power Company 0.32%, and The North American Company 0.74% of the voting stock.

(2) In addition The Washington and Rockville Railway Company of Montgomery County holds 33.12% of the common stock.

(3) In addition The North American Company holds 1.20% of the common stock.

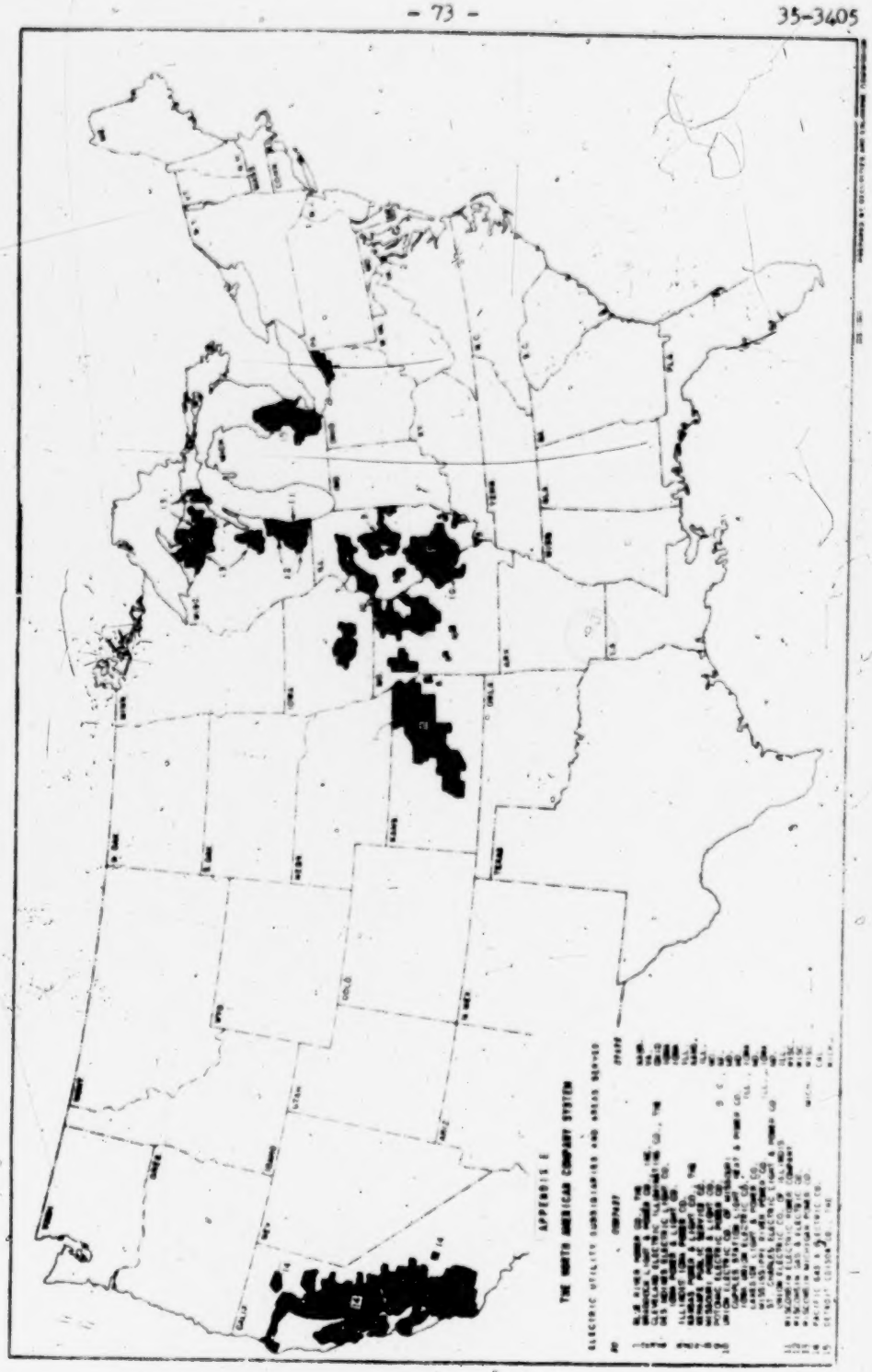
(4) In addition The North American Company holds 0.09% of the common stock.

(5) The North American Utilities Securities Corporation owns 50% of the voting stock.

(6) In addition North American Utilities Securities Corporation owns 5.49% of the voting stock.

(7) In process of dissolution.

(MAP)



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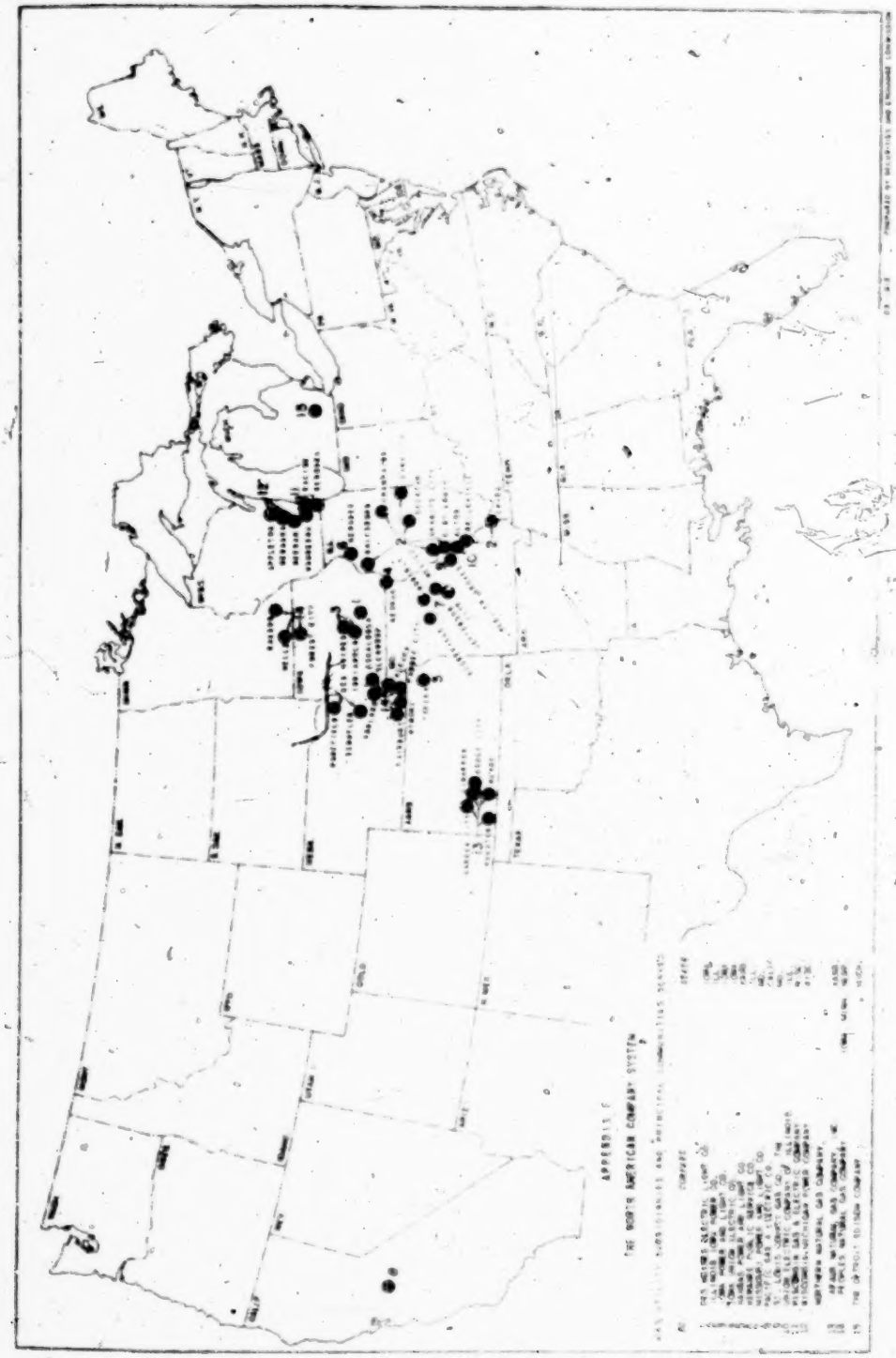

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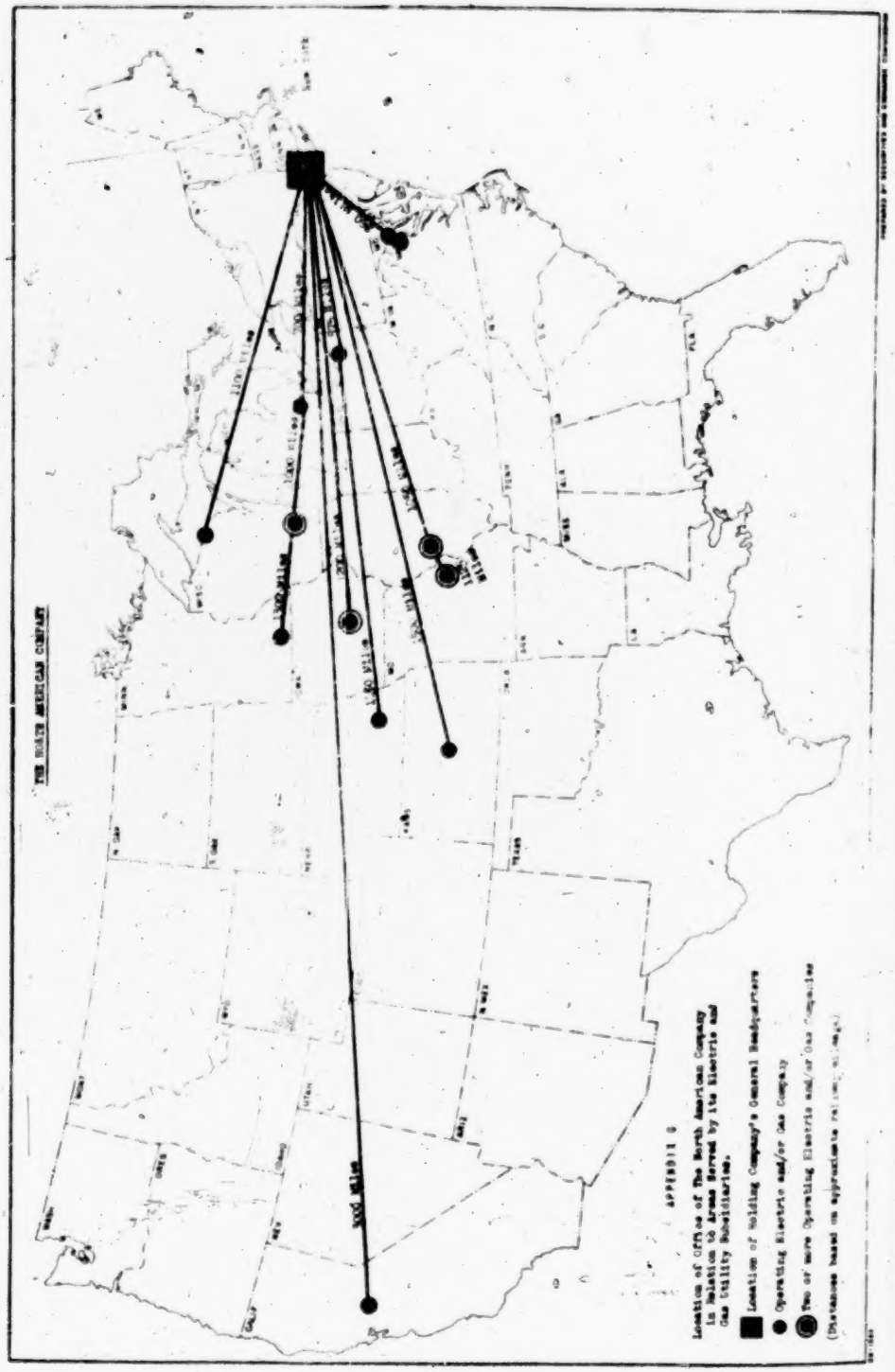
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35-3405
THE NORTH AMERICAN COMPANY
APPENDIX G
Location of Office of The North American Company
In Relation to Areas Served by Its Electric and
Gas Utility Subsidiaries.
Location of Holding Company's General Headquarters
Operating Electric and/or Gas Company
Two or more Operating Electric and/or Gas Companies
(Distances based on approximate railway mileage)

UNITED STATES OF AMERICA

BEFORE THE

SECURITIES AND EXCHANGE COMMISSION

AT A REGULAR SESSION OF THE SECURITIES AND EXCHANGE COMMISSION, HELD AT ITS OFFICE IN THE CITY OF PHILADELPHIA, PA., ON THE 14TH DAY OF APRIL, A. D., 1942.

IN THE MATTER

of

THE NORTH AMERICAN COMPANY

and

ITS SUBSIDIARY COMPANIES

Respondents

File No. 59-10

Public Utility Holding Company Act
of 1935—Section 11 (b) (1)

ORDER REQUIRING DIVESTITURE BY HOLDING COMPANIES AND SUBSIDIARIES IN HOLDING COMPANY SYSTEM OF COMPANIES AND PROPERTIES OWNED OR OPERATED THEREBY

The Commission having on March 8, 1940, by notice and order for hearing, supplemented by a notice and order dated August 12, 1940, adding certain companies as respondents, instituted proceedings under Section 11 (b) (1) of the Public Utility Holding Company Act of 1935 against The North American Company and its subsidiaries to determine their status under said section, and The North American Company

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and its subsidiaries having severally answered such notice and order; and

Hearings having been held after due notice, requests for findings of fact on behalf of such companies and briefs in support thereof having been filed, oral argument having been heard; and

The Commission being advised in the premises, and having this day issued its Findings and Opinion with respect to certain action which the Commission finds necessary to limit the operations of the holding company systems of The North American Company and its subsidiaries, including each subsidiary thereof which is a registered holding company and its subsidiaries, to a single integrated public utility system and additional systems and other businesses in accordance with the requirements of Section 11 (b) (1) of the Public Utility Holding Company Act of 1935;

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IT IS ORDERED, pursuant to Section 11 (b) (1):

1. That The North American Company, a registered public utility holding company, shall sever its relationship with the companies named hereafter by disposing or causing the disposition, in any appropriate manner not in contravention of the applicable provisions of the said Act or the Rules and Regulations promulgated thereunder, of its direct and indirect ownership, control and holding of securities issued and properties owned, controlled or operated by the following companies:

585

Union Electric Land and Development Company
East St. Louis & Suburban Railway Company
East St. Louis Railway Company
Wisconsin Electric Power Company

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The Milwaukee Electric Railway & Transport Company
Motor Transport Company
Badger Auto Service Company
Wisconsin Gas & Electric Company
Wisconsin Michigan Power Company
Milwaukee Light, Heat & Traction Company
Hevi-Duty Electric Company
The Cleveland Electric Illuminating Company
The Power & Light Building Company

587

The Ceico Company
North American Light & Power Company
The Kansas Power and Light Company
Missouri Power & Light Company
The Blue River Power Company
The McPherson Oil & Gas Development Company
Power & Light Securities Company
North American Oil and Gas Company
Northern Natural Gas Company
Argus Natural Gas Company Inc.
Peoples Natural Gas Company

588

Illinois Traction Company
Kewanee Public Service Company
Cahokie Manufacturers Gas Company
Western Illinois Ice Company
Illinois Iowa Power Company
Des Moines Electric Light Company
Iowa Power and Light Company
Illinois Terminal Railroad Company
Central Terminal Company
Cairo City Gas Company
Champaign and Urbana Gas Light and Coke Company

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Danville Gas Light Company
Decatur Electric Company
The Jacksonville Gas Light & Coke Company
Jacksonville Railway and Light Company
St. Louis Electric Terminal Railway Company
Venice Gas Company
Washington Railway and Electric Company
Potomac Electric Power Company
Great Falls Power Company
The Washington and Rockville Railway Company of Montgomery County

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Braddock Light & Power Company, Incorporated
Capital Transit Company
Montgomery Bus Lines, Incorporated
The Glen Echo Park Company
West Kentucky Coal Company (New Jersey)
West Kentucky Coal Company (Delaware)
Peoples Coal Company
St. Bernard Coal Company
North American Utility Securities Corporation
Pacific Gas and Electric Company and its subsidiaries
The Detroit Edison Company and its subsidiaries;

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2. That Union Electric Company of Missouri, a registered public utility holding company, shall sever its relationship with the companies named hereafter by disposing or causing the disposition, in any appropriate manner not in contravention of the applicable provisions of the said Act or the Rules and Regulations promulgated thereunder, of its direct and indirect ownership, control and holding of securities issued and properties owned, controlled or operated by the following companies:

Union Electric Land and Development Company
East St. Louis & Suburban Railway Company
East St. Louis Railway Company;

3. That Washington Railway and Electric Company, a registered public utility holding company, shall sever its relationship with the companies named hereafter by disposing or causing the disposition in any appropriate manner not in contravention of the applicable provisions of the said Act or the Rules and Regulations promulgated thereunder, of
593 its direct and indirect ownership, control and holding of securities issued and properties owned, controlled or operated by the following companies:

Great Falls Power Company
Capital Transit Company
Montgomery Bus Lines, Incorporated
The Glen Echo Park Company;

4. That Washington and Rockville Railway Company of Montgomery County, a registered public utility holding company, shall sever its relationship with the company named
594 hereafter by disposing or causing the disposition, in any appropriate manner not in contravention of the applicable provisions of the said Act or the Rules and Regulations promulgated thereunder, of its direct and indirect ownership, control and holding of securities issued and properties owned, controlled or operated by:

Great Falls Power Company;

5. That Northern Natural Gas Company, a registered public utility holding company, shall sever its relationship with the company named hereafter by disposing or causing

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the disposition, in any appropriate manner not in contravention of the applicable provisions of the said Act or the Rules and Regulations promulgated thereunder, of its direct and indirect ownership, control and holding of securities issued and properties owned, controlled or operated by:

Argus Natural Gas Company;

6. That Illinois Traction Company, a registered public utility holding company, shall sever its relationship with the companies named hereafter by disposing or causing the disposition, in any appropriate manner not in contravention of the applicable provisions of the said Act or the Rules and Regulations promulgated thereunder, of its direct and indirect ownership, control and holding of securities issued and properties owned, controlled or operated by the following companies:

596

Western Illinois Ice Company
Des Moines Electric Light Company
Iowa Power and Light Company
Illinois Terminal Railroad Company
Central Terminal Company
St. Louis Electric Terminal Railway Company;

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and that Illinois Traction Company shall cease to own facilities devoted to, or engage in or control, directly or indirectly, the operation of any water, ice, oil drilling and transportation business now conducted by Illinois Iowa Power Company;

7. That Illinois Iowa Power Company, a registered public utility holding company, shall sever its relationship with the companies named hereafter by disposing, or causing the disposition, in any appropriate manner not in contravention

of the applicable provisions of the said Act or the Rules and Regulations promulgated thereunder, of its direct and indirect ownership, control and holding of securities issued and properties owned, controlled or operated by the following companies:

Des Moines Electric Light Company
Iowa Power and Light Company
Illinois Terminal Railroad Company
Central Terminal Company
599 St. Louis Electric Terminal Railway Company;

and that Illinois Iowa Power Company shall cease to own or operate any property or facilities now owned or operated by it for the purpose of conducting, directly or indirectly, any water, ice, oil drilling and transportation business now conducted by it, and to cease engaging, directly or indirectly, in any water, ice, oil drilling and transportation business now engaged in by it; and

IT IS FURTHER ORDERED that the respondents, in accordance with Section 11(c) of the said Act, shall comply with
600 this order within one year from the date of its entry (without prejudice to their right to apply for additional time to comply with such order, as provided in such section).

Certain of the respondents in this proceeding which are registered public utility holding companies controlling or operating more than one single integrated public utility system, although heretofore afforded opportunity to indicate their choice of the single integrated system they desire to retain as their principal system, having failed to avail themselves of such opportunity, and the Commission desiring, nevertheless, that further opportunity be afforded such re-

spondents to indicate their views with respect to the choice of a principal system;

IT IS FURTHER ORDERED that notwithstanding the provisions of Rule XII(d) of the Commission's Rules of Practice, The North American Company, Northern Natural Gas Company, Illinois Traction Company, and Illinois Iowa Power Company may, within 15 days of the date hereof, petition for leave to present further argument and proffer additional evidence as follows:

602

1. The North American Company may petition for opportunity to present further argument or additional evidence on the question whether any single integrated public utility system, other than the integrated electric utility system of the Union group as described in our Findings and Opinion herein this day issued, shall serve as its principal system;

2. Northern Natural Gas Company may petition for opportunity to present further argument or additional evidence on the question whether the single integrated gas utility system operated by Argus Natural Gas Company, 603
rather than that operated by Peoples Natural Gas Company, shall serve as its principal system.

3. Illinois Traction Company may petition for opportunity to present further argument or additional evidence on the question whether any single integrated public utility system controlled or operated by any of its subsidiary companies, other than the major integrated electric utility system operated by Illinois Iowa Power Company, referred to in our Findings and Opinion herein this day issued, shall serve as its principal system.

4. Illinois Iowa Power Company may petition for opportunity to present further argument or additional evidence on the question whether any single integrated public utility system operated by it or any of its subsidiaries other than the major integrated electric utility system referred to in our Findings and Opinion herein this day issued, shall serve as its principal system.

Provided, however, that the Commission reserves the right to grant, deny or dispose of any such petition according
605 to the merits of the grounds urged in support thereof.

Issue having arisen in this proceeding as to the permissibility of retention of (a) the gas businesses conducted by Union Electric Company of Illinois, Iowa Union Electric Company, and St. Louis County Gas Company, in addition to the integrated electric utility system operated by Union Electric Company of Missouri and its subsidiaries; (b) the gas businesses conducted by Illinois Iowa Power Company, Kewanee Public Service Company, and Cahokia Manufacturers Gas Company, in addition to the electric operations of Illinois Iowa Power Company and Kewanee Public Service
606 Company; (c) the gas operations of Des Moines Electric Light Company and Iowa Power and Light Company, in addition to the electric operations of said companies; and (d) the securities of Cairo City Gas Company, Champaign and Urbana Gas Light and Coke Company, Danville Gas Light Company, Decatur Electric Company, The Jacksonville Gas Light & Coke Company, Jacksonville Railway and Light Company, and Venice Gas Company in the holding company systems of Illinois Traction Company and Illinois Iowa Power Company, and

The Commission deeming it necessary and appropriate that the record be reopened and that additional opportunity

be afforded for the presentation of further relevant evidence bearing on such questions;

IT IS ORDERED that, at such hour and place, and before such trial examiner and in such manner as the Commission shall by further notice and order designate, additional opportunity shall be afforded for the presentation of further relevant evidence bearing upon the question whether the gas businesses and securities referred to may be retained under clauses (A), (B), and (C) of Section 11(b)(1) of the Act as systems additional to the integrated electric utility systems of Union Electric Company of Missouri and its subsidiaries; Illinois Iowa Power Company and Kewanee Public Service Company; and Des Moines Electric Light Company and Iowa Power and Light Company, respectively. 608

Counsel for The North American Company having moved for a dismissal of this proceeding as to certain of its subsidiaries, named in our Order of March 8, 1940, commencing this proceeding, on the ground that they have been dissolved, or that The North American Company no longer has any interest in them, no objection having been made to this motion, and the Commission being of the opinion that the motion should be granted; 609

IT IS FURTHER ORDERED that this proceeding be, and the same hereby is, dismissed as to the following named respondents:

Washington and Glen Echo Railroad Company
St. Louis and East St. Louis Electric Railway Company
Wired Radio, Inc.
Wired Rediffusion Developments, Ltd.
St. Charles Electric Light and Power Company
Lakeside Light and Power Company

610 Wisconsin General Railway Company
Bloomington and Normal Railway, Electric and Heating Company
Decatur Light, Heat and Power Company
Elkhart Electric Light Company
Chicago and Electric Valley Railroad Company.

IT IS PROVIDED, with respect to our Findings, Opinion and Order herein, in their entirety, and with respect to the entry, publication, and service thereof, that they shall be without
611 prejudice to the right of the Commission to enter such other and further appropriate orders from time to time as the Commission may deem necessary to secure compliance by the respondents with the provisions of the Act and the pertinent rules and regulations thereunder in carrying out the provisions of this Order; and

IT IS FURTHER PROVIDED that jurisdiction is reserved to the Commission, notwithstanding this Order, or its entry, publication, and service, to conduct such investigations, hearings, or other proceedings involving any or all of the
612 respondents herein and to make such orders as it shall deem necessary or appropriate under Section 11(b)(2) or any other provision of the Public Utility Holding Company Act of 1935.

By the Commission.

FRANCIS P. BRASSOR
FRANCIS P. BRASSOR
Secretary

Per:
ORVAL L. DU BOIS

(SEAL)

UNITED STATES OF AMERICA

BEFORE THE

SECURITIES AND EXCHANGE COMMISSION

IN THE MATTER

of

THE NORTH AMERICAN COMPANY

and its 614

SUBSIDIARY COMPANIES,

Respondents.

File No. 59-10

Public Utility Holding Company Act of 1935,
Section 11(b)(1)

PETITION OF RESPONDENT, THE NORTH AMERICAN COMPANY, FOR FURTHER ARGUMENT AND FOR LEAVE TO PROFFER ADDITIONAL EVIDENCE

In accordance with the Commission's order dated April 615
14, 1942 in this matter, The North American Company, a respondent herein, respectfully petitions for leave to present further argument, and to proffer additional evidence, with respect to the question whether any single integrated public utility system other than the integrated electric utility system of the group of companies designated in the above-mentioned order as the "Union Group", shall serve as this Respondent's principal system.

Further argument is requested for the following reasons:

(1) Section 11(b)(1) of the Act does not empower the Commission to enter an order designating a par-

616 ticular principal system for this Respondent, or compelling an election by this Respondent of a particular principal system prior to the expiration of the period within which the Commission's order of April 14, 1942 must be complied with.

(2) The sharp decline generally in the market value of securities and in the volume of trading therein, and particularly such decline with respect to public utility securities, since the record in this proceeding was closed, makes it imperative in the interest of investors in securi-
617 ties of this Respondent that this Respondent be given freedom of action, within the full period in which the Commission's order of April 14, 1942 must be complied with, to elect (as between the companies constituting the Union Group, The Cleveland Electric Illuminating Company and the group consisting of Wisconsin Electric Power Company and its subsidiaries) which of said systems is to constitute this Respondent's principal system. This is particularly true since it is impracticable now to determine which of the three large blocks of securities held by this Respondent in such companies may be most salable or best suited to exchange or other disposition at a future date. The Commission's order of April 14, 1942
618 should be reformed to permit such an election by this Respondent.

Leave is requested to proffer additional evidence with respect to the matters set forth in paragraph (2) above.

April 28, 1942.

SULLIVAN & CROMWELL,
Attorneys for Respondent
The North American Company,
48 Wall Street,
New York, N. Y.

SECURITIES AND EXCHANGE COMMISSION

PHILADELPHIA

IN THE MATTER

of

THE NORTH AMERICAN COMPANY

and its

SUBSIDIARY COMPANIES,

Respondents. 620

File No. 59-10

Public Utility Holding Company Act of 1935,
Section 11(b)(1)

OPINION ON PETITIONS FOR REHEARING AND REARGUMENT

On April 14, 1942, we issued an opinion and order in these proceedings directing The North American Company 621 and certain of its subsidiary companies to take various steps in order to comply with the provisions of Section 11(b)(1) of the Public Utility Holding Company Act of 1935.[1] There are now before us petitions for rehearing, for leave to present further evidence and argument, and to set aside our order of April 14, filed by The North American Company, by Illinois Iowa Power Company, and by Northern Natural Gas Company. The first two of these petitions were filed on

[1] *The North American Company and Its Subsidiary Companies*, 11 S. E. C. ——— (1942), Holding Company Act Release No. 3405.

April 29, and the third on May 8, 1942.[2] We shall consider each, in turn.

I. Petition of The North American Company

In the course of the proceedings leading up to our opinion and order of April 14, and to aid us in issuing findings with respect to the maximum limits of the holding company system (*i.e.*, the single system, the additional systems, and the other businesses) which can be retained under the control
623 of North American, we called upon North American to indicate to us which, if any, of the integrated utility systems under its control it desired to retain as its "single integrated system" (commonly referred to as the "principal system").[3] It may very well be that the ultimate responsibility for designating the principal system rests with us, but in making that designation we would certainly give considerable weight to the expressed desires of the respondent holding company. And whether the choice must be made by the Commission or can be made by the holding company, a principal system had to be designated before we could make findings with respect
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[2]The petition of Northern Natural Gas Company was supplemented, and in effect superseded, by an amended petition filed on May 27, 1942.

[3]In this and other proceedings the term "principal system" has been used to refer to the "single integrated public-utility system" mentioned in Section 11(b)(1). Under that section a registered holding company may retain the "single" system, such "additional" integrated systems as meet the standards of clauses (A), (B), and (C), and such "other businesses" as meet the standards of the section in relation to the retainable integrated utility systems. Because the "additional system" standards must be applied in relation to a "single" system and because the "other business" standards must be tested in relation to the retainable utility systems, the designation of at least the outlines of a "single" or "principal" integrated utility system is a necessary starting point.

to the "additional systems" and "other businesses" which might be retained by North American.[3a] We therefore made every effort to obtain from North American an expression of its views in this respect. North American insisted that it was not required to elect a principal system and it refused to make any such election or to indicate a definitive choice. North American's refusal in this respect was apparently based on its contention that it should be free to dispose of its non-retainable properties "as circumstances permit" without being "bound in advance to determine which system would be retained." We rejected that contention. Since at the time the record was closed it appeared clear that, if required to elect a principal system, North American would choose the electric utility properties of Union Electric Company of Missouri and its subsidiaries, and since we found that that choice was not inappropriate, we based our opinion and order upon the electric utility system of Union Electric and its subsidiaries as North American's principal system. However, our order outlined a procedure whereby North American was afforded a further opportunity to present additional argument or evidence, if it so desired, on the question whether any other integrated system under its control should serve as its principal system. Specifically, our order provided that, notwithstanding the provisions of Rule XII (d) of our Rules of Practice, North American might, within fifteen days of the date of the order, petition for leave to present further argument and evidence in this respect.

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On April 28, 1942, North American filed a petition which in its introductory recital purports to be in response to the above-mentioned provision of our order. The petition states

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[3a]North American specifically requested that we make such findings.

two specific reasons in support of the request for further argument. First, North American repeats its claim that, as a matter of law, no principal system need be designated prior to the expiration of the period within which our order of divestment must be complied with. Second, it urges that because of the state of the market for public utility securities, North American should be given freedom of action, "within the full period in which the Commission's order of April 14, 1942 must be complied with" to elect which of its three main systems (the Union group, The Cleveland Electric
629 Illuminating Company, and the group consisting of Wisconsin Electric Power Company and its subsidiaries) is to constitute its principal system. The petition also requests leave to offer additional evidence with respect to the second reason.

1. The petition, although it purports to have been filed in response to the opportunity afforded in our order of April 14 for further argument on the choice of a principal system, does not, in fact, relate to that question. In our order we provided specifically that, notwithstanding Rule XII (d) of our Rules of Practice,[4] within fifteen days of the order of
630 April 14, 1942,

> "The North American Company may petition for opportunity to present further argument or additional evidence on the question whether any single integrated public utility system, other than the integrated electric utility system of the Union group as described in our Findings and Opinion herein this day issued, shall serve as its principal system."

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[4]This rule requires that petitions for rehearing be filed within five days of the order complained of.

The precise language of the order and the discussion in our opinion[5] make it plain that we were affording North American still one further opportunity within a fifteen-day period after the issuance of our opinion and order to state its choice of a principal system. It is clear, however, that North American's petition is not directed to that question but is, in effect, an attempt to reargue its claim that it need not make any choice.[6]

2. Since the petition is not a request for further argument in response to the specific provisions of our order of 632
April 14, 1942, it must be regarded as a general petition for rehearing and reargument. As such, it has not been filed in accordance with our Rules of Practice, which provide that:

> "Any petition for rehearing by the Commission shall be filed within five days after issuance of the order complained of and shall clearly state the specific grounds and the specific matters upon which rehearing is sought" (Rule XII (d)).

However, were we convinced that sufficient merit appeared in the petition, we would not hesitate to grant it in 633

[5]See Holding Company Act Release No. 3405, at pp. 11-13.

[6]Parenthetically, we may note that the position now taken by North American in its petition is somewhat inconsistent with the position taken by it in oral argument before us. Its counsel there insisted, as he does now, that North American is not required to choose a principal system. But he insisted on North American's right to make such a choice "as soon" as called upon to do so, and he stated further, "If the Commission tells me that we must, we will do it immediately." Our order of April 14, 1942, was, in effect, an accommodation designed to permit North American to indicate its position as it said it would "do . . . immediately" or "as soon" as called upon. North American now attempts to use this machinery to argue again that it need not make any election.

spite of the failure to comply with Rule XII (d). Our determination to deny is not based upon the petition's nonconformance with our Rules of Practice, but upon the simple fact that, as an independent petition, it merely seeks to have reargued a contention made, argued, fully considered, and disposed of, in the original proceedings. The request to have the record reopened to take evidence on the state of the market is apparently made on the theory that such evidence may in some way buttress this contention. But, in our view, particularly in light of the comments hereinafter made, evi-
635 dence of the state of the market has no bearing on the question.

3. No useful purpose would be served by further argument or a modification of our order upon the basis thereof. North American's claim is that it should be free, within the period in which our order must be complied with, to dispose of any of its three major systems as the market will permit. This position ignores the possibility of the other methods of divestment indicated in our original opinion. However, even if we were to assume that sales in the market were the
636 only available method, our order does not foreclose the possibility of any such sales as North American may wish to make in correlation with the market. Pursuant to our order, North American is required to dispose of the Cleveland and Wisconsin-Michigan companies, and nothing in our order forbids North American from disposing of the Union group at any time. If North American should desire to dispose of Union Electric, it will, of course, be free to seek our approval under the appropriate statutory provisions. Section 11(b) provides, in express terms, that the Commission "may by order revoke or modify any order previously made" under

Section 11(b) "if, after notice and opportunity for hearing, it finds that the conditions upon which the order was predicated do not exist." If North American can show that, by reason of subsequent events, including the disposition of Union Electric, "the conditions upon which the order was predicated do not exist," we have ample power to modify our order.

Thus, as matters now stand, if there is a showing of changed circumstances, we will have an opportunity to pass upon the propriety of any proposed modification of the plan 638
of integration which we have ordered. Under the type of order for which North American contends, the Commission would be giving its imprimatur to the propriety of any one of three alternative plans of compliance without knowing which, if any, of these plans will, in fact, be carried out. We find no reason or warrant in this case for adopting any such procedure.

North American's petition must, therefore, be denied.

* * * * * *

(Portions of the opinion relating to petitions by Illinois Iowa Power Company and Northern Natural Gas Company 639
have been intentionally omitted.)

An appropriate order will issue.

By the Commission (Chairman Purcell and Commissioners Healy, Pike, Burke, and O'Brien).

ORVAL L. DUBOIS,

Orval L. Dubois,

(SEAL) Secretary.

640 *Order Disposing of Petitions for Rehearing and Reargument*

UNITED STATES OF AMERICA

BEFORE THE

SECURITIES AND EXCHANGE COMMISSION

At a regular session of the Securities and Exchange Commission, held at its office in the City of Philadelphia, Pa., on the 25th day of June, A.D., 1942.

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641 IN THE MATTER

of

THE NORTH AMERICAN COMPANY

and its

SUBSIDIARY COMPANIES,

Respondents.

File No. 59-10

Public Utility Holding Company Act of 1935, Section 11(b)(1)

642

ORDER DISPOSING OF PETITIONS FOR REHEARING AND REARGUMENT

The Commission having on April 14, 1942, adopted its findings, opinion and order in proceedings pending pursuant to Section 11(b)(1) of the Public Utility Holding Company Act of 1935 in the matter of The North American Company and Its Subsidiary Companies, Respondents, which, among other things, designated the respective single or principal integrated public utility systems of the several

holding companies in the holding company system of The North American Company; and

The said order having afforded an opportunity, notwithstanding the provisions of Rule XII (d) of the Commission's Rules of Practice, to The North American Company to request within fifteen days further argument or the presentation of additional evidence on the question whether any single integrated public utility system other than the integrated electric utility system of the Union group, denoting thereby the electric utility properties of Union Electric 644
Company of Missouri and its subsidiaries, shall serve as the "principal" system of The North American Company; and having, notwithstanding the said Rule of Practice, afforded to Illinois Iowa Power Company the opportunity to request within fifteen days further argument or the presentation of additional evidence on the question whether any single integrated public utility system operated by it or any of its subsidiaries, other than the major integrated electric utility system referred to in the said findings and opinion, shall serve as its principal system; and having, notwithstanding the said Rule of Practice, afforded to Northern Natural Gas 645
Company the opportunity to request within fifteen days further argument or the presentation of additional evidence on the question whether the integrated public utility system of Argus Natural Gas Company, Inc., rather than that operated by Peoples Natural Gas Company, shall serve as its principal system; and

The North American Company and Illinois Iowa Power Company, having on April 28, 1942, petitioned for leave to present further argument and additional evidence upon certain matters; Northern Natural Gas Company, having on

646 *Order Disposing of Petitions for Rehearing and Reargument*

May 8, 1942, petitioned for leave to reopen the proceedings with respect to it and its subsidiaries, which petition was amended on May 27, 1942; the Commission having considered the petitions and being fully advised in the premises, and having this day issued its opinion with respect to the issues raised by said petitions:

IT IS ORDERED, for the reasons set forth in the said opinion, that the said petitions be, and the same hereby are, denied, except insofar as hereinafter set forth:

647 The petition of Illinois Iowa Power Company having indicated the existence of evidence respecting the retainability of certain oil drilling facilities owned by the company, which evidence was not before the Commission in the course of the original proceedings herein, and the Commission in its discretion deeming it advisable to afford to Illinois Iowa Power Company an opportunity to present such evidence for inclusion in the record herein; and

The petition of Northern Natural Gas Company having indicated the existence of evidence respecting the retain-
648 ability of certain pipe line facilities owned by its subsidiary, Argus Natural Gas Company, Inc., which evidence was not before the Commission in the course of the original proceedings herein, and the Commission in its discretion deeming it advisable to afford to Nothern Natural Gas Company an opportunity to present such further evidence for inclusion in the record herein;

IT IS FURTHER ORDERED that the record be reopened and a hearing convened at a date to be set by further order of the Commission for the limited purpose of receiving such evidence as Illinois Iowa Power Company and Northern Natural

Gas Company may proffer with respect to the retention and operation of said oil and pipe line facilities, respectively, and the evidence to be introduced shall be limited to those issues, as more fully set forth in the said opinion.

By the Commission.

(SEAL) ORVAL L. DUBOIS,

Orval L. DuBois,
Secretary.

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651

CLERK'S COPY.

Vol. II

TRANSCRIPT OF RECORD

Supreme Court of the United States

OCTOBER TERM, 1942

No. 721

THE NORTH AMERICAN COMPANY, PETITIONER,

vs.

SECURITIES AND EXCHANGE COMMISSION

ON WRIT OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE SECOND CIRCUIT

PETITION FOR CERTIORARI FILED FEBRUARY 10, 1943.

CERTIORARI GRANTED MARCH 1, 1943.

United States Circuit Court of Appeals

FOR THE SECOND CIRCUIT

October Term, No. ——

THE NORTH AMERICAN COMPANY,
Petitioner,

v.

SECURITIES AND EXCHANGE COMMISSION,
Respondent.

TRANSCRIPT OF RECORD

TESTIMONY

Volume II

(Pages 219 to 668)

ON PETITIONS FOR REVIEW OF ORDERS OF SECURITIES AND EXCHANGE COMMISSION

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BEFORE THE

Securities and Exchange Commission

File 59-10

IN THE MATTER

of

THE NORTH AMERICAN COMPANY AND
ITS SUBSIDIARY COMPANIES.

656

Hearing Room 1102,
Securities and Exchange Commission Building,
Washington, D. C.,
Friday, June 7, 1940.

Met, pursuant to notice, at 10 o'clock a. m.

Before: WILLIAM W. SWIFT, *Trial Examiner.*

657

Appearances:

RALPH C. BINFORD, ESQ., appearing on behalf of the Securities and Exchange Commission.

JOHN C. BRUTON, JR., and

CHARLES S. HAMILTON, JR., of Sullivan and Cromwell, New York, N. Y., for respondent.

LLOYD B. HARRIS, ESQ., appearing on behalf of the Public Utilities Commission of the District of Columbia.

658 *Colloquy*

PROCEEDINGS.

The Examiner: This hearing ordered to be convened pursuant to Section 11(b)(1) of the Public Utility Holding Company Act of 1935, is now convened.

Have the appearances of the parties been entered?

Mr. Binford: Ralph C. Binford for the Commission.

Mr. Bruton: Sullivan & Cromwell by John C. Bruton, Jr. and Charles S. Hamilton, Jr., for the respondent, the
659 North American Company and subsidiaries.

The Examiner: At this point I would like to make inquiry if there is any member of the public present this morning desiring to be heard, any investor, any consumer, or any representative of any public utilities commission; if so, you will make yourself known.

Mr. Harris: Lloyd B. Harris. I represent the Public Utilities Commission of the District of Columbia. We have filed a petition for intervention and were granted the right to intervene in this proceeding. I am associated with Elwood H. Seal, General Counsel for the Public Utilities Com-
660 mission.

The Examiner: Very well, the record will show that appearance. The record will also show that with that exception no other person has answered my inquiry.

Now, what have you to present first, gentlemen?

Mr. Binford: Mr. Examiner, this proceeding is one under

—2—

Section 11(b)(1) of the Public Utility Holding Company Act of 1935, directed against the North American Company, a registered holding company, and its subsidiaries.

Numerous answers have been filed and also certain petitions for intervention.

The hearing was originally set for an earlier date, but by order of the Commission it was set at this date and this hour.

I understand, however, that the principal respondent, the North American Company, has a motion relative to a continuance of the hearing to present at this time, before we proceed with the substance of the hearing.

Mr. Bruton: Mr. Examiner, in response to Mr. Binford's 662
statement, there is now pending before the Commission a motion by the respondent that this proceeding be adjourned subject to the further order of the Commission and that the proceeding be held in abeyance.

The grounds upon which that motion is based are fully stated in the motion. A brief accompanying the motion and in support thereof has also been filed with the Secretary of the Commission.

I suggest that it would be improper to continue with the hearing until the motion has been passed upon by the Commission and I suggest therefore that the hearing at this 663

—3—

time be adjourned subject to the determination by the Commission on the motion which I have referred to.

Mr. Binford: Mr. Examiner, this motion was not filed until this morning and it was accompanied by a written brief. Counsel for the Commission is not authorized at this time to consent to a continuance or postponement of this hearing beyond this date. However, I would be willing to consent to and would request the examiner for a recess at this time until 2 o'clock this afternoon in order that the fil-

664 *Colloquy*

ing of this motion and brief might be made known to the Commission, and, if they see fit, authority granted to me to consent to a further adjournment to a definite date or until the motion has been fully considered and passed upon.

I therefore suggest we recess, if it pleases the Examiner and counsel, until 2 o'clock this afternoon.

The Examiner: Off the record.

(Discussion off the record.)

665 Mr. Bruton: I object to the request made by Mr. Binford that the hearing be adjourned only until 2 o'clock and I renew my request that the hearing be adjourned at this time subject to the action by the Commission on the motion which I have referred to.

The Examiner: I do not feel justified in granting the

—4—

whole of your application. I think in fact the Commission will have to act on your motion for the continuance and I think that we should recess this matter until 12 o'clock in order that some word may be had from the Commission

666 as to just what action we shall take with respect to your motion.

I therefore recess this matter until 12 o'clock.

Mr. Bruton: I respectfully except to the ruling.

The Examiner: The record will note the exception.

(Thereupon, at 10:15 o'clock a.m., a recess was taken until 12 o'clock noon.)

667

AFTER RECESS.

Met, pursuant to the taking of the recess, at 12 o'clock noon.

The Examiner: The hearing will be resumed.

Since the recess was taken I have word from the Commission that the motion filed by North American Company for an indefinite adjournment was denied by the Commission. The Commission, however, authorized an adjournment of the hearing for a period of two weeks until June 21, 1940, at 10 o'clock a. m.

668

Mr. Bruton: I wish formally to record an exception to the ruling of the Commission and to reserve the right to request a re-hearing on the motion.

—5—

The Examiner: Very well, your exception and request will be noted in the record.

Mr. Bruton: I also wish to reserve the right to request oral argument before the Commission on the motion, if that may be done in connection with any request for rehearing——

669

The Examiner: I suggest, Mr. Bruton, you put that in the form of writing to the Commission and the Commission will act on that request when it comes in.

Mr. Bruton: I am not making any request at the present time, Mr. Examiner; I am merely reserving formally the right to make such request if it should be deemed desirable.

The Examiner: The record will show the reservation you are making.

670 *Colloquy*

If there is nothing else, this matter is now continued until 10 o'clock a. m., June 21, 1940.

(Thereupon, at 12:10 o'clock p. m., the hearing was adjourned, until June 21, 1940, at 10 o'clock a. m.)

—6—

671

672

BEFORE THE

673

Securities and Exchange Commission

File 59-10

IN THE MATTER

of

THE NORTH AMERICAN COMPANY AND
ITS SUBSIDIARY COMPANIES.

674

Hearing Room 1102-A,
Securities and Exchange Commission Building,
Washington, D. C.,
Friday, June 21, 1940.

Met, pursuant to adjournment, at 10 o'clock a. m.

Before: WILLIAM W. SWIFT, *Trial Examiner.* 675

Appearances:

RALPH C. BINFORD, Esq., appearing on behalf of the Securities and Exchange Commission.

S. PEARCE BROWNING, Esq., JOHN J. BRUTON, JR., Esq., and CHARLES S. HAMILTON, JR., Esq., of Sullivan and Cromwell, New York, N. Y., appearing on behalf of the respondent.

676 *Colloquy*

PROCEEDINGS

The Examiner: The hearing will be resumed. I believe Mr. Browning has joined counsel representing the North American Company and its subsidiary companies since the last hearing which was held on June 7th. .

Mr. Browning: That is correct.

The Examiner: The record will show that. Now at the last session on June 7th I made inquiry if any member of
677 the public was present desiring to be heard and I believe there was one response to that, an intervention by the Public Service Commission of Washington.

Are there any other parties here this morning desiring to be heard? (After a pause.) I hear no response and the record will so show.

All right, gentlemen, you may proceed.

Mr. Binford: Mr. Examiner, I would like to state at this time that a motion for dismissal of this proceeding was filed on the 18th by the respondent, the North American Company, and that motion was denied yesterday, the 20th, by
678 the Commission.

Later during the day I will offer in evidence a copy of that motion and a copy of the order denying the same.

Mr. Browning: And we would like to have the record show we have an exception to that order of the Commission, Mr. Examiner.

—8—

The Examiner: Yes, the record will note your exception.

Mr. Binford: The nature of this proceeding was stated to the Examiner at the first hearing.

679

At this time I offer in evidence as Commission's Exhibit No. 1 in evidence a notice and order for hearing entered March 8, 1940, constituting Holding Company Act Release No. 1960, dated March 9, 1940.

That portion of this order which is particularly designated as a notice in the body of the order was published in the Federal Register, Volume V, No. 49, page 1026, on Tuesday, March 12, 1940, which I have verified by personal inspection of the Federal Register of that date.

680

Mr. Browning: No objection.

The Examiner: The order referred to is received as Commission's Exhibit No. 1.

(The document referred to was marked Commission's Exhibit No. 1 and received in evidence.)

Mr. Binford: As Commission's Exhibit No. 2 I offer in evidence Holding Company Act Release No. 1959 which likewise recites the institution of the proceeding and which was released to the press by this Commission.

The Examiner: Let that come in as Commission's Exhibit No. 2.

681

Mr. Browning: No objection.

—9—

(The document referred to was marked Commission's Exhibit No. 2 and received in evidence.)

Mr. Binford: As Commission's Exhibit No. 3 I offer in evidence certain United States registered mail return receipts which are filed in and attached to the original docket in this case and which are numbers 977,000 to 977,028 in-

682 *Colloquy*

clusive, and numbers 977,926 to 977,999 inclusive, except numbers 977,982, 977,983 and 977,984, and as to the last three numbered registered mail articles which were addressed to Wisconsin General Railway Company, Motor Transport Company and Badger Auto Service Company, respectively, in care of their immediate parent, Wisconsin Electric Power Company.

I offer in evidence envelopes likewise incorporated in the original record showing the same to have been returned, all
683 for the purpose of showing notice to the parties to this proceeding.

The Examiner: Is there any objection to these letters and the postal receipts being introduced?

Mr. Browning: No objection whatever, Mr. Examiner, except that I wonder as to the necessity of burdening the record with them. Would it meet Mr. Binford's purposes if we stated for the purposes of the record that each respondent had received such notice of the hearing, of the proceeding rather.

—10—

684 Mr. Binford: Do you make that as counsel for all respondents?

Mr. Browning: Yes.

Mr. Binford: That would be perfectly acceptable to me, in which case I withdraw the proffered exhibit in view of the stipulation.

The Examiner: All right, the stipulation will be noted.

Mr. Binford: At this time I would like to stipulate with counsel that all documents which are part of the official files of the Commission may remain attached to those files and not be attached to nor copied into this particular record.

685

That is to say all such documents which are introduced and received in evidence, and in the event of court review certified copies or photostatic copies may be used in lieu of the originals. Is that satisfactory?

Mr. Browning: No objection.

The Examiner: Very well, that stipulation, as you gentlemen have stated it, will be noted and followed.

Mr. Binford: As Commission's Exhibit No. 3 I offer in evidence an order of the Commission of April 17, 1940, deferring the hearing in this matter from the date originally 686
set to June 7, 1940, which order as I have verified by personal inspection was published in Federal Register Volume V, No. 77, page 1458 on Friday, April 19, 1940. This is a part of

—11—

the original docket in this case.

The Examiner: That order is received as Commission's Exhibit No. 3.

(The document referred to was marked Commission's Exhibit No. 3 and received in evidence.)

687

Mr. Binford: As Commission's Exhibit No. 4, I offer in evidence Holding Company Act Release No. 2018 released to the press by this Commission under date of April 18, 1940, giving notice of the postponement of the hearing as originally set.

The Examiner: That is received as Commission's Exhibit 4.

(The document referred to was marked Commission's Exhibit No. 4 and received in evidence.)

688 *Colloquy*

Mr. Binford: In making that offer I wish to restrict the offer to the first two full paragraphs of the notice since the remainder of the notice of press release refers to other matters.

The Examiner: Very well. This release is received only in so far as it concerns matters involved in this hearing.

Mr. Binford: As Commission's Exhibit No. 5, I offer in evidence a letter purporting to be accompanied by a copy of the original notice and order for hearing entered in this
689 case with an attached memorandum showing the names of

certain public regulatory bodies and mayors of certain cities as to whom notice and the covering letter were mailed, together with an endorsement on the memorandum and the letter showing the mailing of the same.

I understand that counsel for the respondents will stipulate that in the letters as mailed a copy of the notice and order was included.

Mr. Browning: That is correct.

The Examiner: All right, the letter with the memoran-
690 dum is received as Commission's Exhibit No. 5.

(The document referred to was marked Commission's Exhibit No. 5 and received in evidence.)

Mr. Binford: As Commission's Exhibit No. 6 I offer in evidence original order of the Commission dated June 5, 1940 designating the Trial Examiner presently presiding in this matter.

Mr. Browning: No objection.

The Examiner: That order is received as Commission's Exhibit No. 6.

691

(The document referred to was marked Commission's Exhibit No. 6 and received in evidence.)

Mr. Binford: As Commission's Exhibit No. 7 I offer in evidence the original order of the Commission dated June 7, 1940 denying a certain motion filed on behalf of the re-

—13—

spondent, the North American Company, but adjourning the hearing set for that day in this matter to the present date.

Mr. Browning: No objection. Of course it is of record 692
that we have an exception.

The Examiner: Yes, that is already of record, but it is well to get it in here, I think.

The order is received as Commission's Exhibit No. 7.

(The document referred to was marked Commission's Exhibit No. 7 and received in evidence.)

Mr. Binford: As Commission's Exhibit No. 8 I offer in evidence the caption and last paragraph of Holding Company Act Release No. 2097 which was released to the press by this Commission under date of June 7, 1940, and which 693
gives public notice of the deferring of the hearing set for that date to the present date.

The Examiner: That particular part of Release 2097 is received as Commission's Exhibit No. 8.

(The document referred to was marked Commission's Exhibit No. 8 and received in evidence.)

Mr. Binford: Mr. Examiner, at this point counsel for the Commission proposes to offer in evidence certain dockets of

694 *Colloquy*

the Commission consisting of data filed by the respondent, the North American Company, and by subsidiaries of that company which are also respondents in this proceeding.

—14—

In offering these exhibits counsel for the Commission does not vouch for the accuracy of any particular statements therein contained, but does vouch for the fact the dockets so introduced are part of the original files of the Commission and were filed with the Commission by the parties indicated
695 in the text of the respective exhibits all of whom are parties to this proceeding.

These dockets present a general factual survey of the North American Holding Company System, including the sub-holding company systems within that System. It is recognized the data contained in these reports may vary in the degree of its relevancy to the issues here involved.

While counsel for the Commission takes the position that all the matter contained in these dockets is relevant to the broad issues presented in this proceeding, yet we are willing to stipulate that any party to this proceeding may at any
696 appropriate time during the course of the proceeding object to the materiality or relevance of any particular portions of these exhibits.

Counsel for the Commission is willing to stipulate further that in the event of any appeal from any order of the Commission or in the event of court review there may be omitted from the record such portions of these dockets as may be immaterial or may be determined to be immaterial by the Examiner or the Commission.

—15—

These dockets comprise the so-called U5B or registration statements filed by the North American Company.

Included in each U5B docket as the first instrument in each case is the notice of registration by each particular holding company registered under the Act with this Commission, and thereby becoming a registered holding company.

The additional dockets comprise the so-called U5S statements which are statements filed annually with the Commission to bring up to date the information contained in the original registration statement. 698

Now these dockets, as the Examiner may see, are very voluminous. I would like to state as briefly as I can the general contents so that the relevancy may be determined.

The Examiner: Before you get to a description of the contents let us see if the respondents are willing to stipulate with you about the introduction of these documents.

Don't you think that it is well to see if they care to agree to your stipulation?

Mr. Browning: We would like to be heard on that point, Mr. Examiner.

The Examiner: All right. 699

Mr. Hamilton: Mr. Examiner, we object to the manner in which the exhibits are to be offered. It seems to me to be an unheard of principle that a party to a proceeding can offer exhibits without being bound by the recitals in them.

—16—

If the Commission wants to take the time to sit down and examine these exhibits and determine now what portions are deemed relevant and what portions they wish to rely on, we will be glad to sit down with Commission counsel and go through the entire collection of volumes, but it seems highly

700 *Colloquy*

improper to us that the exhibits should be offered with a complete reservation on the part of Commission's counsel that he is not bound by the exhibits which he himself is offering even though he has stated that any party may subsequently object to the relevancy of any portion of the exhibits offered.

It seems to me that is entirely improper procedure.

The Examiner: We will go off the record at this point.

(Discussion off the record.)

701

The Examiner: On the record.

Mr. Browning: Since there may be some misunderstanding of the Commission's position we request that counsel for the Commission restate the Commission's position regarding these exhibits which are to be offered.

Mr. Binford: In the first place of course the position I am stating is the position of counsel for the Commission and not a determination of the Commission itself. It is my position in this particular case——

—17—

702 Mr. Browning (interposing): Will you read that statement of Mr. Binford's?

(The reporter thereupon read the statement as recorded.)

Mr. Browning: It isn't your personal view. You are presenting the case for the Commission and you are offering the exhibits for the Commission.

Mr. Binford: Yes, but my position is as attorney and not as Trial Examiner and I am not making the determina-

tion of the Commission of what the ultimate conclusion will be.

Mr. Browning: Yes.

Mr. Binford: As I endeavored to state before the position of counsel for the Commission in respect to these dockets which I have described which I propose in a few moments to offer in evidence is that every item of information set forth in the dockets is relevant and material, possibly to varying degrees, in the determination of the issues in this case, which are very broad. 704

Failure of opposing counsel to object at this time to any particular items will not be used by counsel for the Commission at a later and appropriate time during the course of the proceedings——

The Examiner (interposing): Or considered as a waiver.

—18—

Mr. Binford: Or considered as a waiver of the right to object or move to strike any of the material contained and which may be so received in evidence.

I also stated while counsel for the Commission vouched for the fact that these are official public documents on file 705 with this Commission and further vouched for the fact that they were filed with the Commission by the persons by whom they purport to have been filed all of whom are parties to this case, we can not vouch for the accuracy of the particular individual statements made by these parties who are present or represented.

We vouch merely for the official character of the instrument and for the persons by whom they were filed and we assert their relevancy and materiality. Does that satisfy counsel?

706 *Colloquy*

Mr. Browning: I should like to make a further statement regarding the understanding, first as to the question of relevancy and materiality we understand that the Commission is offering these exhibits in their entirety and that counsel for the respondents are offered an opportunity to object subsequently to the relevancy or materiality.

Mr. Binford: These dockets will not be offered in their entirety. They will be offered separately as to particular documents which, however, may consist of several volumes.

707 —19—

Mr. Browning: I meant, Mr. Binford, the items which you did offer. I do not see that we have any objection on that score provided that we have a reasonable time to examine the documents offered as to their relevancy so that we will know what the Commission's case is. I do not want to get ahead of Mr. Binford on his own case, but if he intends to rest after offering these statistical exhibits I submit that we should have a reasonable opportunity to consider the exhibits which have been offered.

For example, Mr. Examiner, if we feel we wish to make
708 a motion to dismiss after the Commission rests we must necessarily as a preliminary step go over the Commission's case very carefully.

Accordingly, I submit that as to the first point we are entitled to a reasonable time to go over the material which is offered this morning.

The Examiner: Have you any objection to that, Mr. Binford?

Mr. Binford: I think that that is a little premature. After these instruments are offered in evidence then the

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question of examination might be brought up, or the question of a recess for a reasonable length of time.

Incidentally I might point out all this material was furnished by the respondents and none was furnished by the Commission.

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The Examiner: If this is received under the statement that you have made in offering it I think the respondents ought to have a reasonable time to examine it thoroughly and interpose any objections as to the relevancy and the competency of it.

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Mr. Binford: I made no limitation in my statement.

The Examiner: I didn't understand you to.

Mr. Browning: If I may say something there, Mr. Examiner, perhaps Mr. Binford is right that since he gives us all the time we want in effect to make any objections as to relevancy, that the question at the close of his case as to how much time we would require to go over his case should be taken up then.

I think I can agree with him on that point.

711

As to the second question presented, the so-called vouching for the exhibits, in general, when a party offers evidence he offers it either for all purposes or the truth of the facts therein stated or he makes a more limited offer to show his adverse state of mind, in which case he may not be bound by the facts therein stated.

As I understand this offer, the exhibits are offered for the facts therein stated and we submit that they must be offered without any reservations as to the exhibits themselves.

712 *Colloquy*

This is a question of law as to which we could file a brief subsequently with the Examiner, but I can refer imme-

—21—

diately to one case. That is the case of Snell Isle versus the Commissioner of Internal Revenue, 90 Federal (2nd) 481 (1937), in which the court states the general rule to be that the party introducing a document in evidence is bound by its recitals for all purposes.

Accordingly, we submit that the offer should be for all

713 purposes.

The Examiner: Have you any further comment to make, Mr. Binford?

Mr. Binford: Yes, I have. I think I ought to refer very briefly for the sake of the record to the general contents and general things shown by these dockets.

The Examiner: Now the question that we are immediately concerned with is whether these documents could be received without reservation.

Mr. Binford: There is no motion or exception or objection presently pending before the Examiner.

714 The Examiner: There was one just made by Mr. Browning.

Mr. Binford: It was merely a comment on the method of presentation.

The Examiner: I interpreted it as an objection.

Mr. Binford: I have made no offer as yet.

The Examiner: You propose to offer it and I think that is the clear import of your position.

Mr. Binford: Before I do that I would like to conclude

—22—

my statement as to what I am going to offer, if I may.

715

The Examiner: All right, you may do that.

Mr. Binford: I make this statement for the sake of having a brief summary in the record.

The U5B dockets which contain as the first instrument, as I have said before, the signed registration and notice of registration of the holding company filing the report whereby it becomes a registered holding company, then the U5B contains general descriptive matter relative to the system.

The first three items identify the company filing the statement and accounting officer filing the statement.

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Item 4 is a list of the companies in the system showing the type of their organization, state of organization and type of business they are in.

Item 5, there appears a brief description of the general character of the business of the companies in the system. This item includes a map showing service areas and their extension across state boundaries of direct public utility subsidiary companies; list of companies outside the system from whom electricity is purchased and/or with whom electric current is interchanged; a list of companies from whom gas is purchased; a tabulation of volume of electric energy and

717

gas transactions of the so-called public utility subsidiary

companies; number of communities served retail and wholesale; estimate of the aggregate population of communities receiving service from the so-called public utility subsidiaries.

When I say so-called I mean public utility companies as defined in the particular act under which this proceeding has been instituted.

718 *Colloquy*

A statement of the principal cities in which electricity and gas is distributed; tabulation of the number of electric customers; the annual sales of electricity in kilowatt hours as well as the revenue from such sales for the period covered; a similar tabulation showing corresponding material with regard to the number of active gas meters and the annual gas sales in thousands of cubic feet throughout the gas service area.

There is also a tabulation of similar material with regard
719 to transportation, heating, water and other non-utility business in the sense of the Act.

Item 6 describes briefly the general character and location of the principal plants and properties of the companies in the system and indicate whether such plants are units or owned in fee or held in some other way.

Item 8 includes a description and statement of the securities outstanding in the reporting system, shows the issues and series of funded debt within the system.

—24—

Item 8 b shows each class of capital stock of companies
720 within the system including certificates of beneficial interest outstanding.

Item 10 gives a tabulation of the investments of the companies in the system in other companies which are in parts of the system.

Item 11 a shows indebtedness of each company to associate companies where the debt exceeds a certain amount, $25,000 or an amount greater than 2 per cent of the debit accounts on the balance sheet of the debtor.

Item 13 shows securities sold during the five years preceding the end of the accounting period covered by the report

which varies as to the U5S statements and U5B statement. It also includes the principal underwriters involved in such flotation.

Item 15 is list of the 20 largest stockholders of each class of stock of the reporting company.

Item 16 a shows the officers and directors of each company including obviously the interlocking directors, if such exist, and indicates the rate of compensation for each director whose aggregate compensation from all companies exceeds $1,000 per year; the annual salary of each whose aggregate 722
compensation is at the rate of $20,000 or more per year.

Item 16 b shows all regular employees who are not officers or directors, but whose aggregate annual rate of compensa-

—25—

tion is $20,000 a year or more.

Item 16 c shows the indebtedness of directors, trustees or officers within the system and companies in the system where the total liability is in excess of a stated sum.

Item 16 d describes briefly the nature of any contract whereby any director, trustee or officer has a contract with any company which provides for compensation or any con- 723
tract between any company and another of whose voting securities an officer owns directly or indirectly 5 per cent or more, or contracts with companies in which the officers and directors on the one hand have beneficial interest in the other contracting party.

Item 16 e shows connections of the directors, trustees and officers with banks and other financial houses.

Item 18 lists services, sales and construction contracts.

Several exhibits follow items in these statements.

724 *Colloquy*

Exhibit A is a corporate chart of the system giving a graphic picture of its inter-relations, indicating the percentage of voting securities owned within the system.

Exhibit B comprises copies of the charters, trust agreements and other fundamental documents of the organization as well as copies of the by-laws of the various companies in the system.

Exhibit C comprises copies of the indentures and other

—26—

725 fundamental documents showing the financial interlocking of properties by reason of mortgage liens and pledges.

Exhibit D contains financial statements of the system companies.

Exhibit E contains maps showing the service areas for electricity and gas. The electric map shows generating plants and transmission lines including physical interconnections; sub-stations and distribution from sub-stations; points of interconnection with other electric utility companies.

The gas map shows similar data with respect to gas

726 properties operated.

These maps also indicate capacity and kinds of plants, voltage and size of lines and the names of other utilities with whom interconnection is presently made and other material indicating a physical description of the properties of the company which is highly relevant in this case.

Exhibit F contains copies of annual reports to stockholders of system companies.

Exhibit G contains copies of annual reports filed with the state commissions and in certain instances the reports submitted to the Federal Power Commission.

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Exhibit H contains confirmations of sales, services and construction contracts.

In other words these dockets give the respondent's own

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over-all picture of the system and its properties, physical connections and general operations.

Now the first of these substantive exhibits I now offer in evidence as Commission's Exhibit No. 9, the U5A and U5B statements of North American Company which is Commission File No. 30-73, and which is in 26 volumes which I suggest be marked for convenience Commission's Exhibits 9-A through Z inclusive.

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The Examiner: We will have a recess.

(Short recess.)

The Examiner: You may proceed.

Mr. Browning: If the Examiner please, I should like the record to show that the exhibits offered would require approximately five feet of shelf space and that we have had no opportunity here today to do more than make the roughest sort of check as to what the volumes contain.

729

We still desire to press our objection to the admission of this material with the reservation which the Commission counsel has proposed.

In other words, we feel that if the material is offered by Commission's counsel it should be offered for all purposes.

The Examiner: Bearing in mind what you have just said as well as the comments of you gentlemen before the formal offering of these volumes I have reached this conclusion:

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730 *Colloquy*

The material in these volumes is received in evidence subject to your right to object at some later date to its admissibility on the ground of relevancy and subject further to your right to examine it more particularly than you have done so far.

Now as to the matter of whether the Commission is bound by the data in these volumes and whether it vouches for the data is another matter which I reserve ruling on and will await the brief that you mention in your objection.

Mr. Hamilton: May I ask, Mr. Examiner, if we are also
731 privileged to object on the ground of immateriality?

The Examiner: Yes, that is a ground for objection also.

The dockets described will be received as Commission's Exhibits 9-A to 9-Z inclusive.

(The documents referred to were marked Commission's Exhibits Nos. 9-A to 9-Z, inclusive, and received in evidence.)

Mr. Binford: As Commission's Exhibit No. 10 I offer in evidence the so-called U5S statements of the North American Company constituting a supplemental registration state-
732 ment for the year 1937, which is in 12 volumes and is designated No. 30-73-2, and I suggest that these 12 volumes be respectively designated as Commission's Exhibits 10-A

through L inclusive for convenience.

Mr. Browning: May it be understood that we make the same objection and the same ruling applies to this exhibit?

The Examiner: Yes. I make the same ruling and the record will show you are making the same objection which you did to the Exhibits 9-A through 9-Z.

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(The documents referred to were marked Commission's Exhibits Nos. 10-A to 10-L, inclusive, and received in evidence.)

Mr. Browning: I don't want to delay the hearing by making the same objection and same reservation each time, Mr. Examiner, that Mr. Binford offers an exhibit, so if we could agree on all these statistical exhibits at the end I could secure an exception.

Mr. Binford: It is so stipulated.

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The Examiner: Very well.

Mr. Binford: As Commission's Exhibit No. 11 I offer in evidence the North American Company U5S or supplemental registration statement for the year 1938 which is in 13 volumes, and I suggest that they be successfully designated as Commission's Exhibits 11-A through 11-M inclusive.

The Examiner: All right, those 13 volumes are received in evidence under the numbers which you have mentioned subject to the objection and reservation which counsel for respondents entered.

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(The documents referred to were marked Commission's Exhibits Nos. 11-A to 11-M, inclusive, and received in evidence.)

Mr. Binford: As Commission's Exhibit No. 12 I offer in evidence the North American Company U5S statement for the year 1939 which is presently in 12 volumes which I suggest be designated consecutively as Commission's Exhibits 12-A through 12-L.

736 *Colloquy*

The Examiner: That will be done.

(The documents referred to were marked Commission's Exhibits Nos. 12-A to 12-L, inclusive, and received in evidence.)

Mr. Binford: At this time, may it please the Examiner, it is my understanding that certain additional material which is part of the statement for the year 1939 has not yet been filed by the North American Company with this
737 Commission, and it may amount to two or three volumes.

I would therefore like at this time to reserve Exhibits 12-M, 12-N and 12-O when it is filed.

The Examiner: All right, that reservation will be made.

(Commission's Exhibit Nos. 12-M, 12-N and 12-O, respectively, were reserved for the documents referred to, same to be furnished later.)

Mr. Binford: As Commission's Exhibit No. 13 I offer

—31—

738 in evidence the U5A and U5B registration statements filed with this Commission by the respondent Union Electric Company of Missouri which is Commission's File No. 30-177-1.

Union Electric Company of Missouri being a sub-holding Company in the North American holding company system.

The Examiner: All right, let that come in as Commission's Exhibit 13.

(The document referred to was marked Commission's Exhibit No. 13 and received in evidence.)

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Mr. Binford: As Commission's Exhibit 13-A I offer in evidence the U5S supplementary registration statement of Union Electric Company of Missouri for the year 1937.

The Examiner: All right, that is received under Exhibit No. 13-A.

(The document referred to was marked Commission's Exhibit No. 13-A and received in evidence.)

Mr. Binford: As Commission's Exhibit 13-B I offer the similar statement of the same company for the year 1938. 740

The Examiner: All right, let that come in as Exhibit 13-B.

(The document referred to was marked Commission's Exhibit No. 13-B and received in evidence.)

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Mr. Binford: As Commission's Exhibit 13-C I offer the similar statement of the same company for the year 1939.

The Examiner: All right, that is received as Exhibit 13-C.

(The document referred to was marked Commission's Exhibit No. 13-C and received in evidence.) 741

Mr. Binford: As Commission's Exhibit No. 14 I offer in evidence U5A and U5B statements of Washington Railway and Electric Company another respondent and sub-holding company in the North American Holding Company System, which is Commission File No. 30-162-1.

The Examiner: That is received as Commission's Exhibit 14.

(The document referred to was marked Commission's Exhibit No. 14 and received in evidence.)

742 *Colloquy*

Mr. Binford: As Commission's Exhibit No. 14 I offer in evidence the U5S or supplemental statement of the same company for the year 1937.

The Examiner: All right, that is received as Commission's Exhibit 14-A.

(The document referred to was marked Commission's Exhibit No. 14-A and received in evidence.)

743 Mr. Binford: As Commission's Exhibit 14-B I offer in

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evidence a similar statement of the same company for the year 1938.

The Examiner: Let it come in under Exhibit No. 14-B.

(The document referred to was marked Commission's Exhibit No. 14-B and received in evidence.)

Mr. Binford: As Commission's Exhibit No. 14-C I offer in evidence a similar statement of the same company for the year 1939.

744 The Examiner: All right, it is received under the number which he has given it.

(The document referred to was marked Commission's Exhibit No. 14-C and received in evidence.)

Mr. Binford: As Commission's Exhibit No. 15 I offer in evidence the U5A and U5B registration statements of Illinois Traction Company a respondent in this proceeding, and a registered holding company of the North American Company System, which bears Commission's File 30-79-1.

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The Examiner: All right, let that be received as Commission's Exhibit 15.

(The document referred to was marked Commission's Exhibit No. 15 and received in evidence.)

Mr. Binford: As Commission's Exhibit 15-A I offer in evidence the U5S or supplemental registration statement of the same company for the year 1937.

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The Examiner: All right, so received.

(The document referred to was marked Commission's Exhibit No. 15-A and received in evidence.)

Mr. Binford: As Commission's Exhibit No. 15-B I offer in evidence a similar statement of the same company for the year 1938.

The Examiner: All right, it is received under the number mentioned.

(The document referred to was marked Commission's Exhibit No. 15-B and received in evidence.)

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Mr. Binford: As Commission's Exhibit No. 15-C I offer in evidence a similar statement of the same company for the year 1939.

The Examiner: All right, that is received as Commission's Exhibit 15-C.

(The document referred to was marked Commission's Exhibit No. 15-C and received in evidence.)

748 *Colloquy*

Mr. Binford: As Commission's Exhibit No. 16 I offer in evidence the U5A and U5B registration statements of North American Light and Power Company, a respondent in this proceeding, a registered holding company and a sub-holding company in the North American system bearing file No. 30-78-1 of this Commission.

The Examiner: That is received as Commission's Exhibit 16.

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749 (The document referred to was marked Commission's Exhibit No. 16 and received in evidence.)

Mr. Binford: As the Commission's Exhibit 16-A I offer in evidence the U5S or supplementary registration statement of the same company for the year 1937.

The Examiner: All right, received under the number mentioned.

(The document referred to was marked Commission's Exhibit No. 16-A and received in evidence.)

750 Mr. Binford: As the Commission's Exhibit 16-B I offer in evidence a similar statement by the same company for the year 1938.

The Examiner: All right, it is received under the number which you have mentioned.

(The document referred to was marked Commission's Exhibit No. 16-B and received in evidence.)

Mr. Binford: As the Commission's Exhibit No. 16-C I offer in evidence a similar statement for the same company for the year 1939.

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The Examiner: All right, it is received as Commission's Exhibit 16-C.

(The document referred to was marked Commission's Exhibit No. 16-C and received in evidence.)

—36—

Mr. Binford: As the Commission's Exhibit No. 17 I offer in evidence U5A and U5B statements of the respondent Illinois-Iowa Power Company, a registered holding company and a subsidiary under the Act in the North American system which bears Commission's File No. 30-176-1.

752

The Examiner: All right, that is received as Commission's Exhibit 17.

(The document referred to was marked Commission's Exhibit No. 17 and received in evidence.)

Mr. Binford: As the Commission's Exhibit No. 17-A I offer in evidence the U5S supplementary registration statement of the same company for the year 1937.

The Examiner: Let that come in under the number mentioned.

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Mr. Binford: As Commission's Exhibit No. 17-B I offer in evidence a similar statement by the company for the year 1938

The Examiner: All right, that is received as Commission's Exhibit 17-B.

(The documents above referred to were marked Commission's Exhibits Nos. 17-A and 17-B, respectively, and received in evidence.)

754 *Colloquy*

Mr. Binford: As Commission's Exhibit No. 17-C I offer in evidence a similar statement by the same company for the year 1939.

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The Examiner: That is received under the number mentioned.

(The document referred to was marked Commission's Exhibit No. 17-C and received in evidence.)

755 Mr. Binford: As Commission's Exhibit No. 18 I offer in evidence the U5A and U5B statements of the respondent, the Washington and Rockville Railway Company, a registered holding company and a sub-holding company in the North American System which bears file No. 30-163-1 of this Commission.

The Examiner: Let that come in as Exhibit 18.

(The document referred to was marked Commission's Exhibit No. 18 and received in evidence.)

Mr. Binford: As Commission's Exhibit No. 18-A I offer
756 in evidence the U5S or supplemental registration statement of the same company for the year 1937.

The Examiner: That is received under the number mentioned.

(The document referred to was marked Commission's Exhibit No. 18-A and received in evidence.)

Mr. Binford: As Commission's Exhibit No. 18-B I offer in evidence a similar statement by the same company for the year 1938.

The Examiner: That is received as Exhibit 18-B.

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(The document referred to was marked Commission's Exhibit No. 18-B and received in evidence.)

Mr. Binford: As Commission's Exhibit No. 18-C I offer in evidence a similar statement by the same company for the year 1939.

The Examiner: All right, it is received as Commission's Exhibit 18-C. 758

(The document referred to was marked Commission's Exhibit No. 18-C and received in evidence.)

Mr. Binford: As Commission's Exhibit No. 19 I offer in evidence the U5A and U5B registration statements of the respondent Northern Natural Gas Company, a registered holding company which is a sub-holding company within the North American System which bears File No. 30-169-1 of this Commission.

The Examiner: All right, that is received as Commission's Exhibit 19. 759

(The document referred to was marked Commission's Exhibit No. 19 and received in evidence.)

Mr. Binford: As Commission's Exhibit No. 19-A I offer in evidence the U5S or annual supplemental registration statement of the same company for the year 1937.

The Examiner: All right, it is received as Exhibit 19-A.

—39—

760 *Colloquy*

(The document referred to was marked Commission's Exhibit No. 19-A and received in evidence.)

Mr. Binford: As Commission's Exhibit No. 19-B I offer in evidence a similar statement by the same company for the year 1938.

The Examiner: That is received as Exhibit 19-B.

(The document referred to was marked Commission's Exhibit No. 19-B and received in evidence.)

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Mr. Binford: As Commission's Exhibit No. 19-C I offer in evidence a similar statement by the same company for the calendar year 1939.

The Examiner: That is received as Exhibit 19-C.

(The document referred to was marked Commission's Exhibit No. 19-C and received in evidence.)

Mr. Binford: The U5A, U5B and U5S statements or registration statements which have been offered in evidence bring the description of the companies of the North Amer-
762 ican System through December 31, 1939. A few changes in respect to the financial structure of these companies has been effected or proposed since that date according to documents filed by certain of the companies since that time.

Filings reflecting these changes and proposed changes have been made by the companies affected with this Commission.

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I wish now to offer in evidence the dockets of the Commission in these particular proceedings which reflect things accomplished or proposed since the end of last year.

I therefore offer in evidence as Commission's Exhibit No. 20, Commission Docket No. 70-48 relative to the transaction participated in by the North American and by the St. Louis County Gas Company in which the common stock of the latter company was issued,

Mr. Hamilton: Mr. Examiner, the exhibit which counsel is offering now is somewhat of a different nature than others which have been heretofore offered, but in order to be clear on the record may we understand the same objections and same reservations apply in the case of these particular ex- 764
hibits which are now being offered as in the case of the exhibits previously offered?

Mr. Binford: That is agreeable to me.

The Examiner: Very well, that is the understanding.

Mr. Binford: That was reserved on the record.

The Examiner: You have finished describing it?

Mr. Binford: Yes, I have finished describing it.

The Examiner: Very well, the document which you have described is received in evidence as Commission's Exhibit No. 20.

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(The document referred to was marked Commission's Exhibit No. 20 and received in evidence.)

Mr. Binford: As Commission's Exhibit 21 I offer in evidence Commission Docket No. 70-69 pertaining to the Washington Railway and Electric Company and Capital Transit Company and certain transactions related to the guarantee and assumption of bonds presently pending for which Washington Railway and Electric Company in the proceeding

766 *Colloquy*

reflected by the Docket is seeking the approval of the Commission.

The Examiner: The material in this docket is received as Commission's Exhibit 21.

(The document referred to was marked Commission's Exhibit No. 21 and received in evidence.)

Mr. Binford: As Commission's Exhibit 22 I offer in evi-
767 dence the Commission's Docket No. 70-9 pertaining to the North American Company and particularly to the approval of certain recent transactions by it in connection with a refunding of preferred stock by Wisconsin Electric Power Company.

The Examiner: All right, that is received as Commission's Exhibit No. 22.

(The document referred to was marked as Commission's Exhibit No. 22 and received in evidence.)

Mr. Binford: As Commission's Exhibit No. 23 I offer in
768 evidence Commission's Docket No. 70-1 which reflects the

refunding preferred stock operation of Wisconsin Electric Power Company in so far as that company as the issuing company is concerned.

The Examiner: That material is received as Commission's Exhibit 23.

(The document referred to was marked Commission's Exhibit No. 23 and received in evidence.)

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Mr. Binford: As Commission's Exhibit No. 24 I offer in evidence Commission's Docket No. 70-12 in the matter of the Kansas Power and Light Company which is concerned with the recent preferred stock refunding operation of that company.

The Examiner: Let that come in as Commission's Exhibit 24.

(The document referred to was marked Commission's Exhibit No. 24 and received in evidence.)

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Mr. Binford: As Commission's Exhibit No. 25 I offer in evidence Commission's Docket 70-22 in the matter of North American Light and Power Company, which docket pertains to the surrender by that company of certain preferred stock of the Kansas Power and Light Company in return for cash.

The Examiner: That is received as Commission's Exhibit 25.

(The document referred to was marked Commission's Exhibit No. 25 and received in evidence.)

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Mr. Binford: As Commission's Exhibit No. 26 I offer in evidence Commission's Docket 70-6 in the matter of Wisconsin Electric Power Company which pertains to some interest reductions on a note or notes of that company.

The Examiner: That is received under the number which you have mentioned.

(The document referred to was marked Commission's Exhibit No. 26 and received in evidence.)

772 *Colloquy*

Mr. Binford: As Commission's Exhibit 27 I offer in evidence Commission's Docket No. 4343-255 in the matter of North American Light and Power Company which pertains to a recent issue of common stock by that company to the North American Company and to others.

The Examiner: Very well, it is received as Commission's Exhibit 27.

(The document referred to was marked Commission's Exhibit No. 27 and received in evidence.)

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Mr. Binford: This concludes the evidence which counsel for the Commission wishes to offer at this time.

Mr. Browning: Are all these offered now?

Mr. Binford: Yes.

Mr. Browning: We haven't a yardstick, but I would like

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the record to show that the statistical exhibits which have just been offered by the Commission would occupy a shelf some 20 feet long, that they include hundreds, if not thousands of documents and it is understood, of course, that they

774 have already been admitted with the objection subject to the reservation and exception agreed upon.

The Examiner: Yes. I have reserved a ruling as to whether the Commission is bound by this material and I am awaiting briefs from both sides on that matter.

Mr. Browning: And you also made a fuller statement all of which still holds good?

The Examiner: Yes, and that applies to right now.

Mr. Binford: When this hearing was convened on June 7th, counsel for the Commission made no opening statement

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as to what the Commission proposed to prove, nor has any such statement been made yet. I think it is possible in order that I make a very brief statement at this time as to the position of counsel for the commission in respect to the effect of the evidence thus far introduced and the issues in this proceeding.

Mr. Hamilton: Mr. Examiner, before counsel for the Commission makes a statement may I ask whether this is intended to be a statement of his personal views or a statement of the views of the Commission?

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Mr. Binford: This is a statement of the views of the Public Utility Division and counsel for the Commission. I

could hardly say it was a judicial determination by the Commission. It is nothing of that type at all. It is merely a reflection of what I, as counsel for the Commission believe the effect of the evidence is which has been so far established by the facts put in.

Mr. Hamilton: But it is not intended as an expression of the Commission's view?

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Mr. Binford: It is not intended as an expression of the Commission's view either tentative or final.

Mr. Hamilton: In that case I object to any statement of the personal views of counsel for the Commission, with all due respect to him, or expression of views of the Utility Division inasmuch as the statements are not represented as being the views of the Commission.

It seems highly improper and beyond the scope of the issues for any such statement to be made. If the gentleman wishes to make a statement of the Commission's view that

778 is another question. If he wants to testify and subject himself to cross examination, that still is another question.

I would like to point out it is fully conceivable in this proceeding that another counsel or other counsel may represent the Commission at various times during the course of the proceeding, and such other counsel may well have other views.

We therefore can be apprised at no time what the particular attitude of the particular representative of the Com-

779 —46—

mission is at any given stage.

The Examiner: Well, Mr. Binford, isn't what you intend to say argument rather than testmony?

Mr. Binford: It is certainly not testimony. It is argument if it is anything. It is merely an attempt to advise the Examiner and to advise counsel as to what issues I, as present active counsel in this case, believe are raised by what has been put in evidence.

The Examiner: Well, in view of the objection which has been made I——

780 Mr. Binford: (interposing) It is for the benefit of the Examiner and any one reading the record as well as for the benefit of opposing counsel. Of course it carries no weight.

The Examiner: In view of the objection which has been made I feel that I must sustain the objection on the ground that the statement which you are about to make is argumentative and does not embrace testimony which we alone are considering in this matter, as I understand it.

This order directs me to take testimony and not to hear argument. Now it strikes me in the brief you are to submit

you might go into those matters if you think it necessary in your brief.

Mr. Binford: The Examiner feels then it would be out of order for me to make any statement which I might feel would show the purposes more particularly for which this

—47—

evidence has been introduced?

The Examiner: I suggest that you write out what you wish to present and submit it to counsel and see if their objection still holds good, or you may state it orally on the 782
record and then if counsel still insists on his objection I will rule on it then.

Mr. Browning: I think that would be quite sensible if Mr. Binford will give us a written statement of what he proposes to put in. We would be very glad to reconsider the question and decide then whether we will continue to press our objection.

Mr. Binford: I am not prepared to follow that course at this time and I respectfully except to the ruling of the Examiner.

The Examiner: All right. 783

Is there any objection, Mr. Browning, to his stating orally and then letting your objection come in?

Mr. Browning: If the Examiner please, I don't want to make technical objections, but our feeling was that the statement offered with the limitations imposed upon it made it improper for counsel for the Commission despite our objection to make a full statement for the record, and then we argue the objection later.

The record still has all the material in it. Accordingly we would much prefer the suggestion which the Examiner

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784 *Colloquy*

has made. Since Mr. Binford was preparing to make a statement for the record I am a little puzzled as to why the Examiner's suggestion isn't the most practical way to handle the matter.

The Examiner: Off the record.

(Discussion off the record.)

The Examiner: On the record. We have reached the hour of 12:30 and we will recess until 2 o'clock. At that time we
785 will take this matter up again.

(Whereupon, at 12:30 o'clock p. m., a recess was taken until 2 o'clock p. m. this day.)

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Colloquy 787

AFTER RECESS

(The hearing was resumed at 2 o'clock p. m., pursuant to recess.)

The Examiner: The hearing will be resumed.

Have you gentlemen changed your position with regard to the matter that we were discussing when the luncheon recess took place?

Mr. Browning: Not at this time, Mr. Examiner. 788

The Examiner: Well, I feel that I should sustain the motion which Mr. Hamilton made and you may have your exception, Mr. Binford.

Mr. Binford: Very good, sir. The Commission has no further testimony to offer at this time.

Mr. Browning: The respondent, the North American Company, moves for an adjournment of this proceeding for not less than four weeks. We submit that such motion should be granted for the following reason:

Until the denial by the Commission on June 7, 1940 of the respondent's motion for adjournment and to hold this 789 proceeding in abeyance, the respondent had every reason to believe that its answer in this proceeding would be given fair and careful consideration by the Commission and that it would have a reasonable opportunity to carry out the program outlined in its answer unhampered by extended hearings.

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The Commission's denial of such motion was the first clear and unmistakable evidence of the Commission's determination to force this proceeding to an immediate hearing.

790 *Colloquy*

As soon as respondent was apprised of the Commission's attitude it commenced the preparation of its case and has been actively engaged in such preparation ever since.

As any lawyer will appreciate, however, to prepare this case properly, considering the extent and complexity of the issues of law and fact involved will require months of intensive effort. Any lawyer knows that to prepare the case adequately will require several months even though we have a large staff working on the matter.

791 Accordingly, the respondent is not now ready to present evidence and will require substantial additional time. This proceeding is the most vital and important to which the respondent has ever been a party involving, as it does, respondent's entire business future.

This proceeding raises or produces the most complicated and difficult question imaginable, involving as it does broad constitutional questions as well as serious questions of statutory consideration.

These questions must be resolved against a broad, factual background. Adequate preparation for such a proceeding
792 obviously can not be pushed through in a few short weeks

or even months. Every dictate of fairness and common sense as well as settled legal principles requires that adequate time, having in mind the nature of the proceeding, be afforded to respondent for preparation.

While this motion is for an adjournment of at least four weeks, it should be commented that not even four weeks time will permit respondent to adequately prepare its entire case.

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At best it will put respondent in position to offer certain evidence when the hearing reconvenes following which further adjournments will be necessary from time to time.

Respondent is doing and will continue to do everything in its power to expedite the preparation of its case, however, and will present as much of its case as possible at the reconvened hearing.

We are requesting an adjournment of at least four weeks at the present time. That is, we are putting the request in that form instead of a request for an adjournment of several months because of the expressed desire of the Commission's staff to expedite the hearing. 794

In other words, Mr. Examiner, I think it is perfectly clear that it will require months to prepare the case and that we could do a lot better job in the preparation if we had adequate time. The better prepared our case is, the better it would go in, the less time of the Examiner and the Commission would be required, and in order to do a really good

job we ought to have several months.

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Now on the other hand, I must state in fairness that we can have part of our case ready in four weeks and as long as the Commission wants the thing moving along we are making the motion for four weeks adjournment. My idea is at the end of the four weeks period when the hearing reconvenes I will put in everything I can. Then when we reach the end of what we have we will have to have further adjournment to prepare ourselves for further hearings.

I should also like to base this motion on still another ground. The Commission has offered in evidence today some

796 *Colloquy*

20 feet of shelf space of material. It is obvious that we should have a fair opportunity to go over the material and particularly with a view to correlating that material to what we ourselves intend to present. We have a very large proceeding here, a proceeding involving large issues. This tremendous bulk of statistical material is submitted and offered in evidence. Even if we had our case completely prepared up to the present time and were ready to step in here with witnesses who would take the stand, and there would be weeks
797 of hearing we would still need a substantial period of time to correlate our case with the Commission's case.

In other words, on that ground, we should be granted a substantial length of time.

The Examiner: Have you anything else that you want

to add before Mr. Binford is heard?

Mr. Browning: We have prepared here a written memorandum, Mr. Examiner, because we understood it would be convenient to have it for your purposes in considering the matter and I would like to submit that memorandum to you.
798 I should say that the memorandum which was prepared this morning before the hearing opened does not contain any discussion of the last point which I made with regard to the statistical exhibits and accordingly I hope the Examiner will remember that point.

The Examiner: Very well. Have you anything to say about this application, Mr. Binford?

Mr. Binford: Yes, I have, Mr. Examiner. Counsel has spoken of the insufficient time available for the preparation of respondent's case. I would like to point out the time of

hearing has twice been deferred and the last order of the Commission set definitely for this date. I think I have no authority to ignore that history of the continuances in this case and of the fact that the last time continuance was granted the Commission definitely set the case for hearing as of this date. 799

Furthermore, the reasons or grounds for argument which were submitted to support this motion for a continuance did not set forth, so it seems to me, any actual facts showing the necessity for the granting of the continuance. 800

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The Examiner: You are talking now about what was said on the last motion?

Mr. Binford: I am talking about what was said on the motion presently pending before yourself.

The Examiner: All right.

Mr. Binford: There is no statement as to what these exhaustive exhibits or treatments of subjects by witnesses might consist of, as to what they go to, as to what issues are supposed to be supported by them, or anything except a general statement there would be a great mass of evidence which had to be assembled and put in here. We did have the respondent's somewhat exhaustive statement in a 20 foot shelf as counsel expressed it, as to their properties and systems. What additional requires the great preparation hasn't been shown or what great mass of additional material requires a further delay to be prepared hasn't been shown. 801

In other words, it is a mere statement there is to be a great mass of testimony in evidence. Possibly there is no

802 *Colloquy*

reason for it. There should be some showing what the evidence is that is required to be put in this case.

This Act has been enacted since 1935 directing the Commission to take this action as soon as possible after January 1, 1938.

The Examiner: What do I understand your position to be?

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803 Mr. Binford: I oppose this motion for continuance at this time. I have no great argument against a short recess.

The Examiner: Do you want it to proceed right along continuously?

Mr. Binford: I see no necessity for four weeks or for any extended recess at this time upon any of the grounds asserted on the record by counsel.

The Examiner: We will have a short recess.

Mr. Browning: Could I make one suggestion, Mr. Examiner, which I hope you will bear in mind that on the scope of this case, if the Commission's own exhibits require 20
804 feet of shelf space, to do justice to the case, as they see it, I think it would be obvious to any experienced lawyer why the evidence for the respondent would require considerable time.

Mr. Binford: I would like to also add one further remark if I may.

The Examiner: All right.

Mr. Binford: Counsel has spoken of necessity for study by counsel for the respondent of the documentary evidence introduced on behalf of the Commission.

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I want to call attention to the fact all this documentary evidence is material prepared by the respondents themselves with which they are undoubtedly as familiar as are the staff of the Commission.

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Mr. Browning: I need hardly say that the respondent is familiar with which it has filed. I did not mean to suggest that the time was necessary for the respondent to become familiar with the material filed. If it were not familiar with that material it would not require six months. It would 806
require two years.

What I said was to properly correlate the material offered would require a substantial length of time.

Mr. Examiner, I have never seen a major case which was before a court to proceed, or anything like this nature where after one side had rested after putting an exhaustive record either in the form of statistics or of testimony the other side was not granted a period of time to correlate the material.

The Examiner: We will now go off the record.

(Discussion off the record.)

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The Examiner: On the record. I think there is considerable merit in the application which has been made and I also think that it would be unfortunate and undesirable to start the next session at the end of the week on a Friday, so I am going to grant you additional time and will continue the case until 10 o'clock a. m., Monday, July 15, 1940. At that time I am going to rely on us being ready to proceed and make some progress with this hearing.

Mr. Browning: Yes.

808 *Colloquy*

Mr. Binford: I respectfully except to the granting of the —57—
motion for continuance.

The Examiner: All right.

(Whereupon, at 2:30 o'clock p. m., Friday, June 21, 1940, the hearing in the above-entitled matter was continued until Monday, July 15, 1940, at 10 o'clock a. m.)

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BEFORE THE

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Securities and Exchange Commission

File No. 59-10

IN THE MATTER

of

THE NORTH AMERICAN COMPANY AND
ITS SUBSIDIARY COMPANIES.

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Room 1102,
Securities and Exchange Commission Building,
Washington, D. C.,
Monday, June 24, 1940.

The above-entitled matter came on for oral argument before the Commission at 10:00 o'clock a. m.

Present:

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COMMISSIONERS JEROME N. FRANK (Chairman), ROBERT E. HEALY, EDWARD C. EICHER, and SUMNER T. PIKE.

Appearances:

RALPH C. BINFORD, Esquire, appearing for Securities and Exchange Commission.

S. PEARCE BROWNING, JR., Esquire, (Of Sullivan and Cromwell), 48 Wall Street, New York City, New York, appearing for The North American Company.

814 *Colloquy*

PROCEEDINGS

Chairman Frank: You may proceed, Mr. Binford.

Argument of Ralph C. Binford on Behalf of Securities and Exchange Commission.

Mr. Binford: May it please the Commission, this matter comes before the Commission upon an exception taken by me
815 on behalf of the Commission to a ruling of the Trial Examiner in the North American integration case.

This case came on for hearing at 10 o'clock a. m., on Friday, June 21st, pursuant to order of the Commission definitely setting the hearing for that date. That order had granted a continuance from June 7th to the 21st, in response to a motion for an indefinite continuance which was denied.

Last Friday counsel for the Commission introduced in evidence voluminous documentary matter consisting of the notice of registration as a holding company filed by each of the registered holding companies of the North American
816 system, the registration or U5B statements, the annual supplementary statements, or U5S statements filed by such companies, and certain filings covering the intervening period for each fiscal year.

Counsel for the Commission then stated that he had no further testimony to offer at that time, or that he wished to offer at that time.

Thereupon, he also endeavored to make a statement as to what he considered was the evidentiary effect in relation to the issues in the case of the material received in evidence.

Objection was made to that on behalf of the respondents upon the ground that it would be argumentative and should not properly go into the record.

That was in the nature of an introductory statement appearing in the case. That objection was sustained by the Trial Examiner and an exception was noted. That exception is now before the Commission.

Then, counsel for respondents presented an oral motion for an adjournment of this proceeding for not less than four weeks. Only general argument was offered in support of 818
that motion. I have the record here. It consists of three or four pages. The gist of it is—and I will try to state it as fairly as I can—that counsel for the respondent and respondent had reason to believe, until the entry of this Commission's order on June 7th, that in view of the program set down in the answer of the North American Company as to what it proposed to do to conform, according to its views, with section 11(b)-1, it had every reason to believe that there would be no extended hearings in the matter and that it could go ahead with that plan. No particular statement
was made as to what the reason was that made them believe 819
that.

Counsel then stated that only then did the North American Company start the preparation of its case.

Chairman Frank: Only when?

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Mr. Binford: On or about June 7th, after the denial of the motion.

Commissioner Healy: Have you the entire Reporter's transcript of the proceedings?

820 *Colloquy*

Mr. Binford: I have, sir.

Commissioner Healy: Does that cover everything, and your offer of evidence?

Mr. Binford: It covers everything.

Commissioner Healy: May I see it?

Mr. Binford: Yes, sir. Here it is.

Chairman Frank: Did counsel for North American Company indicate that he or his client had been given assurances by anyone or that he had any grounds for believing that its
821 answer would be taken——

Mr. Binford: There is no statement in the record as to any reason for that expression of belief.

Counsel then stated that it would take a great deal of time to prepare the case, that is, a great deal of additional time.

Chairman Frank: When was the answer filed?

Mr. Binford: The answer was filed on May 16th. The proceedings were started on March 8th. There had been two postponements, the first one postponing the time for answering. In view of the matter in which the order was framed it
822. also postponed the time for hearing. That was 30 days,

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which was the full amount asked for by North American at that time.

Subsequently, on this motion for indefinite postponement until the Commission had made a report under section 30 of the Act, which motion the Commission denied, it granted a further recess for two weeks.

Counsel has not stated what the evidence is that he says will take so much time to prepare on behalf of his company. There is an affirmative program laid down in the answer.

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There is no showing that there is a necessity for any such voluminous testimony; there is no suggestion that counsel was taken by surprise when the U5B and U5S statements were put into the record. And there being nothing else offered by the Commission at that time, all of the evidence now in the record consists of material with which the respondent companies and the firm representing the respondents, I should say, should be very familiar, they having prepared this material themselves. As I say, there is nothing in the record which came in any way as a surprise.

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Of course, rule 7 of the Commission's Rules of Practice provide:

> "A hearing before a trial examiner shall begin at the time and place ordered by the Commission, but thereafter may be successively adjourned to such time and place as may be ordered by the Commission or by the Trial Examiner."

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It is recognized as a general rule that motions for continuances are addressed to the discretion of the Trial Judge or other officer presiding at a judicial or quasi-judicial hearing. However, the discretion so vested in the Examiner is, of course, a judicial and not an arbitrary one.

But here we have no evidence or specific statement of any character. It is merely the lack of preparation, without anything in the record.

The statute has been on the books since 1935, and certainly it has been plenty of notice as to the pendency of such a proceeding.

826 *Colloquy*

The general rule in respect of continuances for want of preparation is set forth in 17 Corpus Juris Secundum on page 203, as follows:

> "As a general rule a continuance for want of preparation will be refused. An applicant to be entitled to relief on such ground must show some precise legal or strong equitable reason and the exercise of reasonable diligence in every direction in which he claims
827 to be unprepared."

Counsel has not stated in what direction he is unprepared. He states it would take a lot of time to prepare the case. What the evidence is that he seeks to get has not been explained on the record.

Although there is discretion vested in the Trial Exam-

iner, yet the action of the Trial Examiner, upon the showing made upon the record, in granting a continuance of more
828 than three weeks in this proceeding, is without proper basis, is arbitrary, and should be reversed.

There might be some justification for a recess of a few days, or possibly a week; but why three weeks or a month is necessary certainly has not been shown on this record. If they have not prepared their case for this time there is no showing that they will be any better prepared six months or two years from now.

I respectfully submit that the ruling of the Trial Examiner should be overruled and the exception sustained.

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ARGUMENT OF S. PEARCE BROWNING, JR., ON BEHALF OF RESPONDENTS

Mr. Browning: If the Commission please, Commission's counsel has given the situation which occurred on Friday. Our motion for an adjournment for at least four weeks was made after the introduction of the Commission's statistical and documentary case. Then I received notice of this appeal after reaching home late Friday night.

I might say at the outset that it would seem in a matter 830
of this nature the mere granting of a short adjournment in the course of the hearing by the Trial Examiner in the exercise of discretion should not be reversed.

Chairman Frank: Do you think we have no power to

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reverse him?

Mr. Browning: Certainly, Mr. Chairman, every power to reverse him. My point is simply that some weight should be given to the Examiner's exercise of discretion.

Our motion to the Examiner was for a four-weeks adjournment, and for reasons which we stated fully. He gave 831
us a three-weeks adjournment; but I did not take an exception or plan an appeal from that order because I knew that the Examiner was obviously trying to be fair, and I would have preferred to accept that handicap rather than take the matter up on appeal.

To state our reasons for adjournment, we repeat that until June 6th and 7th the respondent believed that in view of the nature of its answer and the program which it had proposed that it would be given a reasonable opportunity to work out the program without there being extended hearings.

832 *Colloquy*

In other words, it really visualized an entirely different type of situation.

We all know, of course, that whereas under certain sections of the Act the procedure has now been worked out over an extensive period and matters go through rapidly and very easily, that these proceedings under section 11(b)-1 are new and that there was a real question as to what procedure would be followed.

In any case, this respondent understood that another

833 —66—

procedure was going to be followed.

The Chairman's question of a moment ago as to what specific statements we are relying upon is the next matter. Frankly, I would very much prefer not to go into that, simply for the reason that I think it would lead to useless recriminations. We feel that this respondent has been on very good terms with the Commission and its staff. We do not want to get into that kind of an argument. We think it would be very bad business for the future. But I can say to you without qualification that Mr. Shea, president of the

834 respondent, was under that very strong impression that there would not be extended hearings at the outset.

Accordingly, what the respondent did and what its counsel did was to rivet their attention on the answer and on the programs, and not on extended hearings; in other words, the actual preparation for the case.

When Mr. Shea came back from Washington after a conference on June 6th, and we also had the very definite action of the Commission on June 7th, we knew that we were wrong as to the Commission's views as to the general procedure to be followed; we knew that there were going to be

hearings, and extended hearings, and we started immediatly to prepare our case.

From time to time mention is made of 1935 and March 9, 1940. I submit that every lawyer in this room knows how many times he ever started to prepare a case for trial before his answer was submitted. I just wonder how many times

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he did.

Now, as to the nature of the hearings, the comment is made that our remarks were general. This proceeding is 836
obviously the most important and vital to which the respondent has ever been a party or to which it can be a party under the Act. The members of the Commission know that just as well as I do. It raises the broadest, most complicated and difficult questions imaginable, involving both broad constitutional questions and questions of statutory construction. It is new. There are no precedents under section 11(b)-1. The question has been reserved by the courts.

This respondent, as its answer shows, had hoped to work out the matter with the Commission so that we would not be litigating constitutional questions. We did not want to. 837

On the other hand, I think it is clearly obvious that if we are going to have hearings and if we are going to have a full record, that this respondent must have a record which will bring out those constitutional questions; and those questions must be resolved, as we see it, against broad factual backgrounds.

Adequate preparation for such a proceeding obviously cannot be pushed through in a few short weeks. And I will go further and say that we could not do a really good job in less than several months. I think that any lawyer will

838 *Colloquy*

realize that if he puts himself in our position. Every dictate
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of fairness and common sense, as well as settled legal principles, requires that the respondents be given adequate time to prepare for the hearings.

Chairman Frank: Did North American Company ask for a clarification of the issues along the line of U. G. I.'s answer?

Mr. Browning: No, Mr. Chairman. And since you raise
839 that point may I say just a word about it. It is somewhat ironical in this whole integration setup, the way things work out. As I see it, the Commission started in the integration proceedings on one theory. That theory, of course, was reflected in the form of notice and order, which was substantially the same for all companies. One of the systems then raised this point under section 11(a), and following that I believe four of the systems raised it; and tentative plans are being prepared for them. The ironical part of it is that those other systems have been given an adequate time for preparation. In other words, we are the respondent who
840 followed the line of thought which the Commission itself followed; we adopted the Commission's procedure and did not move for a bill of particulars.

Chairman Frank: Assuming that you had a right to get a bill of particulars or that the Commission considered it appropriate to give it as a matter of course; is the fact that you did not ask for one, and, therefore, I would gather
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that you were entitled to one, the reason you must base your present motion upon the absence of such clarification as might conceivably have been given to you.

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Mr. Browning: I am not basing it upon the absence of the bill of particulars. But I would like to say further that what we followed was the original viewpoint set forth in the order of the Commission; that is, that the evidence in the proceeding go in before anybody made up his mind as to what was what. And I simply point out that this is a highly ironical result, a remarkable result, that we are penalized for following that procedure.

Under these circumstances, what we really need is an adjournment for several months to prepare our entire case 842
adequately. When we so stated to the staff and they objected and wanted to go ahead, stating that they wanted to press the matter, we tried to meet their viewpoint just as far as we could. In other words, instead of making a motion for an adjournment for three months on Friday I made a motion for an adjournment of four weeks, and I stated that I did it with the idea that we could certainly have a fair amount of evidence ready for presentation at the end of the four weeks. We would not have our entire case prepared but we would be ready to go forward and put in material.

Chairman Frank: If the adjournment were granted and 843
you put in some evidence at that time, then you would ask for a further adjournment?

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Mr. Browning: Yes, Mr. Chairman. I intend to do my very best with this adjournment. I intend to prepare just as much as I can on a hammer and tongs basis, and I intend to offer just as much evidence as I can offer at the end of the adjourned period.

This motion is a very different motion from the motion of June 7th. That motion went to the whole question of

844 *Colloquy*

what kind of a proceeding it is and what kind of procedure you are going to follow. This is a motion which one might characterize as being a motion in trial. It is simply for preparation. And we have stated unequivocably to the Examiner that we are going to go ahead with everything that we can get ready.

I have been asked how much can we get ready. I cannot say definitely. The more time we have, of course, the more we can get ready. I am dealing with people and with
845 witnesses I have never even met. I have to meet them for the first time. But we are going to do our best to meet the views of the Commission. We are sorry that they are the views of the staff. We would prefer to try the case the other way; but we are going to do our best to go along.

I would like to make an additional point. As Mr. Binford stated, the Commission had rested after offering these rather voluminous statistical documentary exhibits, which would require some 20 feet of shelf space. Of course, we are

—71—

846 familiar with that material. We certainly are. It is not a question of not being familiar with it. If it were new to us it would take years. What we want to do is correlate our case with the material that is in evidence so as to avoid duplication so far as possible and to make as good a record as possible. However, it is something that has a very material bearing on the adjournment, the fact that the Commission had introduced this evidence and rested.

I submit that on those reasons I have given that any court in the country would have granted us the adjournment which the Examiner granted.

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I also submit that the Commission should not want us to go forward unprepared in these proceedings, first, because it is unfair. And fairness should be our first consideration at all times. Even if the company were wrong in its understanding, completely wrong, even if it had no justification for its understanding, still the fact is that it was its understanding, and we do need the time for preparation. And in that case it is unfair not to grant it.

Chairman Frank: In the light of the requests which have been referred to by counsel for the Division, do you think it would be appropriate, at the minimum, that the company file an affidavit stating that that was its reasonable understanding?

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Mr. Browning: We will be glad to file that affidavit, Mr. Chairman, if you want us to do so. I stated the reasons why I thought it was desirable to avoid it. We want to keep on in the way that this respondent has dealt with this Commission in the past, able to discuss things with you at all times. If we have misunderstandings every now and then I do not think it helps things any to have an attitude of controversy about it. I am entirely willing to submit such an affidavit if you think it would be advisable.

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Chairman Frank: We will consider it.

Mr. Browning: In the second place, these integration proceedings are new and difficult and a very large task for the Commission. You have a monumental task in them. One of the things on which we could help in that monumental task is to have a decent record come up from the integration proceedings. The Commission counsel can try its best, but it

850 *Colloquy*

takes both counsel to make a good record. We want to make a good record. We want to work right along with the Commission's counsel and have the best record that we can have so that you will have it before you. But that is one of the things that takes time.

If I may recall a famous letter of Cicero, you will remember he wrote in the letter "If I had had more time this letter would be shorter".

In other words, by asking for more time for preparation
851 I do not mean that the record is going to be any longer. I

—73—

think the record will be better, and it may be shorter.

Furthermore, we have had a very legalistic argument here. To take the practical aspect of the matter, we have told you our situation. What possible difference does it make to anybody as to this adjournment of three weeks.

The integration section has been involved a long time. These proceedings are going to take considerable time. We come in and we need three weeks more. I submit that it makes no difference to anyone else.

852 Up to now I have been trying to stress the practical considerations as we see them. We feel, and we feel very deeply, that to deny us time for adequate preparation would amount to a denial of due process and would make a farce of the hearing. I do not have any memorandum prepared for submission to the Commission today because there was insufficient time for it; but I can submit such a memorandum, if required.

Now, if I may say a word as to the length of the adjournment, the mere question of how long, the Commission's counsel himself has indicated that some adjournment would

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have been proper. The period granted included three Saturdays, three Sundays and the Fourth of July. I expect to work on every one of those days. I am going to have to do it with just the three weeks adjournment. But we have general personnel, just as this Commission does, and I submit that to force all of your personnel to work every Saturday and Sunday and the Fourth of July is something that

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should be done only when there is a controlling emergency that requires it. If the emergency comes they are all prepared to do it. And, of course, they will all do it if they have to.' I am not pleading for myself on this. As I say, I expect to work on all of those days anyway. But I think it has a definite bearing upon the question of the time granted.

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The Commission's counsel has been very courteous in regard to the conduct of the proceedings, and this is the only disagreement which is brought before you. I very much dislike to see the proceedings start off with an elaborate argument on such a matter as this. We want to cooperate in conducting these hearings. We believe, however, that the Commission will understand and will be fair, and that the Examiner's ruling will be sustained.

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The point was made in the argument of Commission counsel that I had not given any reasons for an adjournment. I think I have given quite a number of reasons. But if I have not been sufficiently specific, or if there is anything that I ought to add or that the Commission would like to have me add, I should be very glad to do so.

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856 *Colloquy*

REPLY ARGUMENT OF RALPH C. BINFORD ON BEHALF OF THE SECURITIES AND EXCHANGE COMMISSION.

Mr. Binford: May it please the Commission, counsel for the respondents stated his desire to cooperate in every way to facilitate these proceedings and to expedite them. As I pointed out before, there has been no statement as to the nature of this evidence that they say will take so much time to prepare.

857 In their answer the respondents say they want to keep as their principal system a system based, as they expressed it, on St. Louis and operating in the contiguous states of Missouri, Illinois and Iowa. They mention numerous other properties which they state they are ready to dispose of.

There was an objection to my attempting to state what, under the circumstances, the evidence as received on the issues might possibly be narrowed down to.

Commissioner Healy: What issues do you think you have the burden of proof on? I have looked at the transcript, and you put in a great many exhibits. I don't know whether

858 they would occupy 24 feet of shelf space or not.

Mr. Browning: 20 feet.

Mr. Binford: I think that was an estimate.

Commissioner Healy: That may be a close estimate. But I do not discover any statement in the record as to what issues those documents are presented on.

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Mr. Binford: I endeavored to state that but the Examiner sustained an objection to my statement.

Commissioner Healy: That is why I asked for the information at this time. On what items did you take the burden

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of proof? Do you think that you have undertaken the burden raised by the A. B C. issues in the 11(b)-1, or do you think you have merely undertaken to prove how many integrated systems there are in the North American system?

Mr. Binford: The order issued in this case stated that it appeared to the Commission that the holding company system of the North American Company is not confined in its operations to those of a single integrated public utility system within the meaning of the Act, and such other businesses as are reasonably incidental, economically necessary or 860
appropriate to the operations of such integrated public utility system.

Commissioner Healy: The notice stated very plainly, or we tried to make it plain, that that was not an allegation. The fact that you prove there is more than one does not necessarily end it.

Mr. Binford: That is true. The U5B and U5S statements very definitely show that the North American system is not confined to a single integrated system. It tends to show what various properties and operations there are within the integrated system which might individually be so regarded. 861

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Commissioner Healy: You are now getting to the point that I wanted to be informed about. Do I understand you to say that you introduced the evidence to show, (1) that there was more than one integrated system (2) to prove what they were?

Mr. Binford: I introduced it to show that there were more businesses and properties than could be regarded as one integrated system. It did not appear to be necessary, in view of the allegations, that we assume the burden of

862 *Colloquy*

proving in the first instance any more than that there was property which could not be regarded as within one integrated system.

That, if the Commission please, is the reason why I introduced it.

—78—

In the answer an apparent issue has been made by the North American Company that they will retain or will seek to retain the system based upon St. Louis, to which I re-
863 ferred. In view of that allegation in the answer, in the U5B and U5S statements and other material put in evidence it will very clearly appear that numerous other geographical groups of companies, such as those in Washington, or the District of Columbia, and adjacent territory, those around Cleveland, the Ohio group, and certain other properties could not under any interpretation of the Act be regarded as part of that St. Louis system. Therefore, they would have to be eliminated if the St. Louis system is retained as the primary system.

Commissioner Healy: Just confining yourself to the ques-
864 tion of what issues you undertook the burden with respect to, I think I understand you on the integration matter, but were you undertaking the burden on the A. B. C. standards of section 11(b)-1?

Mr. Binford: Not as to the retention of distant systems.

Commissioner Healy: Where do you conceive the burden of proof is on the issue as to whether t' North American Company can retain more than one integrated system.

Mr. Binford: I believe that burden of proof is on the company.

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Commissioner Healy: And you did not mean by introduc-

—79—

ing the evidence you did that you were assuming the burden on that point?

Mr. Binford: No, sir; I did not. However, I propose to contend that the suggestion set forth in the answer, that Cleveland might be retained as an additional system, despite the intervening state of Indiana, was, on its face, as a matter of law under the A. B. C. standards, an impossibility. I think it could not be done because of the geographical dis- 866
tance between the two systems and because of the magnitude of the Cleveland system. As appears obvious from the U5B and U5S statements, it is such that it could stand on its own feet and could economically operate as an independent system. It is, in effect, so operated.

Possibly I was a little anticipatory if I stated that as one of the things which the exhibits were offered to prove. In the first place, what they were put in for was to show the magnitude of the property, the fact that they consist of more than one integrated system, and that numerous properties cannot be regarded as part of the properties based upon 867
St. Louis.

Commissioner Healy: Is there any real necessity for trying out the issue as to the Washington property since the answer, if I remember correctly, states that they propose to get rid of the Washington property.

Mr. Binford: It would seem not. But without permitting me to state those issues, counsel may be expecting to spend

—80—

months to prove that the Washington system is an integrated system, when probably it will not be a matter at issue at all.

868 *Colloquy*

Chairman Frank: You say you were denied the opportunity to make a statement?

Mr. Binford: The Trial Examiner sustained the objection to my making the statement at to the issues.

Commissioner Healy: On your Washington matter, it would seem to me that it might not be difficult to prove the Washington property and integrated system, and it might not be material. The question would be whether the holding——

869 Mr. Binford: They said St. Louis is what they want to keep.

Commissioner Healy: Having said they want to get rid of it, that issue might drop out of the case.

Mr. Binford: If counsel will state the reason he desires the adjournment is because certain necessary witnesses who are familiar with what may be regarded eventually as part of the St. Louis system have not been contacted yet, and what he proposes to prove by them, and what companies can properly be regarded as within it, then there might be some ground for an adjournment or a recess if for some good rea-
870 son he has not been able to prepare on that point. But he leaves it wide open as to what all of this evidence is going to be. I don't know, and I don't see how the Trial Examiner could know whether it will be material and relevant evidence.

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Commissioner Healy: I do not understand the ruling under which you were not permitted to make a statement.

Mr. Binford: I excepted to it.

Commissioner Healy: You put in 12 feet or 20 feet of evidence in documentary form. So far as I can determine from

the transcript it was not stated what issues it was relevant to or what you intended to prove.

Mr. Binford: I attempted to make it.

Chairman Frank: Do you care to make a motion to overrule the Trial Examiner?

Mr. Binford: I excepted to the ruling.

Chairman Frank: Would you care to argue that now?

Mr. Browning: I would be glad to do so.

Chairman Frank: Why did you not want to know what your adversary's position was? 872

Mr. Browning: Because, Mr. Chairman, it was phrased, if I recall correctly, more or less as the personal views of trial counsel. It was not even a tentative official view with regard to the matter. In other words, if the particular trial counsel should be shifted to another hearing or another matter, a week later, as we see it, we could have an entirely different statement presented to us.

Had we understood it to have been a statement of the tentative position of the Commission, and official, we would

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have had a different matter there. In other words, at that 873 point it would have been really like an opening statement of counsel.

Of course, I have some difficulty in seeing at what moment it gets to be a tentative statement of the Commission itself, and what the difference is between that and a bill of particulars.

Chairman Frank: Assuming for the moment that there is a difference, you are in a proceeding in which counsel for the Utilities Division is presenting evidence bearing upon the issues framed by the notice of hearing and your answer.

874 *Colloquy*

If he cares to tell you why he is introducing certain evidence I would think, if I were you, as his adversary that you would want to be enlightened because it would enable you in preparing your case to have a statement, and, as a result, it might be that you would not have to spend three weeks but would have to spend only a day. In other words, you have left yourself in such a mystified position as you are in here today, and, therefore, you want additional time because you do not know where he is headed. I think it would be illu-
875 minating to you and helpful in preparing your case to know why he introduced that evidence.

Mr. Browning: The suggestion was made at the hearing that since the statement was to be read in and there was nothing secret about it that we would have a chance to read

—83—

the statement and probably would withdraw our objection.

Commissioner Healy: Are you familiar with the stop order cases under the Securities Act?

Mr. Browning: No, sir.

Commissioner Healy: I would like to point out in that
876 connection that when counsel tries a case under section 8, the stop order, under the Securities Act, while acting as counsel for the Commission he is not stating the Commission's point of view.

Mr. Browning: If we had a statement presented which was going to be the position of the Commission counsel throughout the hearing, I think that is one thing. Perhaps I misunderstood the Commission's counsel; but it seemed to come in more as a personal statement of his views. I think the two things are different. We are getting into very fine lines there.

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Commissioner Healy: They are too fine for me. I don't know how you can define a personal point of view and that of a man on the Commission's Utilities staff trying a case for the Commission. If you can find that line your eyesight is much better than mine.

Mr. Browning: We wanted to consider the matter and see if it would be possible—and I might say that I had some indications from Mr. Binford on the side as to what his views were.

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We were directed to file a brief on that matter before the Examiner, but I do not have any brief ready. I have not seen the transcript.

Mr. Binford: File a brief on what?

Mr. Browning: File a brief on the question.

Mr. Binford: On that question?

Mr. Browning: Well, no; you are right, Mr. Binford. If the Commission wants to consider that question now I am perfectly willing to waive any notice of it and have it come up.

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Commissioner Healy: What would you think of a program of this kind? Suppose the Commission were now to overrule the Trial Examiner's order or ruling sustaining your objection to Mr. Binford's making his statement and set the case for hearing Wednesday morning so that that statement could be made; then, after the statement is made take an adjournment until that afternoon or the next morning and then hear counsel on the subject of when the hearing should be resumed.

Mr. Browning: Mr. Commissioner, I want to be entirely cooperative and helpful; but that kind of a program is the

880 *Colloquy*

most time consuming from my own standpoint. I went back to New York Friday night ready to plunge into the preparation but I had to come down here this morning and argue it. That kills today. If I come down again Wednesday that will kill Wednesday.

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Commissioner Healy: Are you prepared to make the statement this afternoon, Mr. Binford?

Mr. Browning: I think I can stipulate with Mr. Bin-
881 ford, if the Commission wants to rule from the bench that his statement is admissible. I will simply stipulate that the stenographer can take the statement—which would save a trip down here. Time is of the essence on this matter to us.

Chairman Frank: Then, suppose you do stipulate that he makes a statement and we consider that statement part of the transcript in considering your present matter or his present motion to overrule the Trial Examiner as to the adjournment.

Will that be satisfactory?

882 Mr. Browning: That will be satisfactory so far as procedure is concerned. Some of the discussion between the Commissioner and Commission counsel is getting into a much larger field, and that is the scope of the issues and what testimony will be relevant.

I learned that theory of Commission's counsel for the first time Thursday afternoon. He was very courteous. We discussed the theory at some length. We used time in between the hearing on Friday to discuss it, and I had gone back to New York Friday night to consider it, to see what its im-

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plications are. Certainly it has a most important bearing on the hearings. There is no question about that.

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(The statement by counsel for the Commission above referred to is as follows:)

Mr. Binford: I should like to make a short statement as to the position of Counsel for the Commission in respect to the effect of the evidence thus far introduced and the issues in this proceeding.

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It would seem to be clear that, as alleged in paragraph 63 of the Notice and Order for this hearing:

> "The holding company system of The North American Company is not confined in its operations to those of a single integrated public utility system, within the meaning of the Act (the Public Utility Holding Company Act of 1935), and to such other businesses as are reasonably incidental, economically necessary or appropriate to the operations of such integrated public utility system."

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It appears that the public utility holdings and operations of the North American system may be roughly divided geographically as follows:

(1) A group of public utility companies which may be said to be "based on St. Louis and conducting operations within the adjoining states of Missouri, Illinois and Iowa," including the operating electric utility companies of the Union Electric Company of Missouri holding company sys-

tem and including also The St. Louis County Gas Company;

—87—

(2) The electric utility properties and operations of The Cleveland Electric Illuminating Company, which are centered on Cleveland and located wholly within the State of Ohio;

(3) The electric utility properties embraced within the holding company system of Washington Railway and Elec-
887 tric Company, serving the District of Columbia and adjacent areas in Maryland and Virginia;

(4) The properties and operations of the system serving parts of Wisconsin and Michigan.

It further appears that none of these geographic groups of companies, or properties and operations, are geographically inter-connected with any properties or operations of any of the other groups, and no two of these groups could, under any construction of the Act, be considered as together constituting an integrated public utility system.

888 In addition to the three geographic groups mentioned, it appears that The North American Company controls the North American Light & Power Company system, which system is not an integrated public utility system.

Furthermore, it appears from the evidence already adduced that, in addition to its holdings in companies which are public utility companies or public utility holding companies, The North American Company, also has three direct non-utility subsidiaries, namely, 60 Broadway Building Corporation, North American Utilities Securities Corporation

—88—

and West Kentucky Coal Company. It has yet to be shown that the retention of the businesses represented by these companies is "reasonably incidental, or economically necessary or appropriate to the operations of (any) integrated public utility system" which The North American Company may retain.

The evidence already adduced also discloses the ownership and control by the companies of The North American system of interests in numerous gas utility properties which do not constitute integrated gas utility systems within the 890
meaning of the Act, and the ownership and control of interests in numerous non-utility businesses, the retention of which, likewise, has not yet been shown to be reasonably incidental, or economically necessary or appropriate to the operation of any integrated public utility system which The North American Company may retain.

In its answer, The North American Company has indicated a desire to retain as an integrated system certain properties "based on St. Louis and conducting operations within the adjoining states of Missouri, Illinois and Iowa, and one additional integrated system based on Cleveland." 891

It would therefore seem that an issue to be determined in this proceeding is the question of what particular properties can be considered as a part of an integrated system "based on St. Louis."

In respect of the desire expressed by The North American Company in its answer to retain "one additional integrated system based on Cleveland," a second issue will be the determination of whether or not such system may be retained as an "additional system" under Section 11(b)(1), with

particular reference to the tests laid down by paragraphs (a), (b) and (C) of that Section, and, in this connection I wish to state that it is the position of Counsel for the Commission that paragraph (B) of the (A), (B), (C) paragraphs requires that the whole of each additional system to be retained must be located in the state or states in which the principal system retained is located, or in a state or states contiguous thereto. Therefore, Counsel for the Commission takes the position that, as a matter of law, para-
893 graph (B) precludes the retention by The North American Company of its Cleveland system as an additional system, if a system based on St. Louis and conducting operations within the adjoining states of Missouri, Illinois and Iowa, is retained as the principal system. In the event that the position of Counsel for the Commission upon this point should not be sustained, and paragraph (B) should be so interpreted as not to require this result, an issue will be the determination of compliance of such proposed retention of the Cleveland system with the provisions of paragraph (A) and (C) of the Section.

894 Moreover, it may develop that the properties of the North

American system around St. Louis constitute more than one integrated public utility system and that if certain of these properties are to be retained by The North American Company, they will have to be retained, if retained at all, as "additional systems", and retention thereof will, therefore, have to satisfy the (A), (B), (C) standards. If such additional systems are found to be susceptible of retention under these standards, it will then, if the view of Counsel for the Commission is correct, be doubly obvious that the Cleve-

land system cannot under any construction of the Act be retained as a further additional system.

An additional question will be the determination of what interests in businesses other than that of a public utility company may be permitted to be retained as reasonably incidental or economically necessary or appropriate to the operations of the one or more integrated public utility systems which The North American Company may retain.

The North American Company, in its answer, states that its program does not contemplate "any present change of 896
the Company's investments in the Detroit Edison Company and Pacific Gas & Electric Company," which investments are minority investments. It is the position of Counsel for the Commission that, as a matter of law, the retention of these public utility investments by The North American Company, in addition to the retention of one or more integrated public utility systems, is precluded by the express

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provisions of Section 11(b)(1).

Chairman Frank: Well, you may proceed, Mr. Browning.

Mr. Browning: Now, answering Mr. Binford's direct 897
question as to whether we would be prepared to put in testimony here, we are not prepared to put in testimony on the St. Louis Company. I can say without any reservation whatsoever that I am not in the slightest degree prepared for that. I can meet him four-square on that issue. I haven't even any idea who the witnesses are. I have not talked to them.

I think all of the lawyers in the room realize that when you are in that stage of the case that you need time.

I want to answer that question just as forthrightly as I can. I had hoped to consider the suggestion of Commission's counsel as to their views on the scope and then to get together with them sometime during those three weeks. Perhaps we can either agree on it or perhaps the matter can be raised in some preliminary way. However, it is an extremely important matter and it is a matter which should be very seriously considered by itself. I can argue it this morning if the Commission wants to; but I prefer not to.

899 Chairman Frank: Which question?

Mr. Browning: The scope of the issues. I am not prepared to argue it.

Chairman Frank: We will take the matter under advisement.

Mr. Browning: Now, do you want me to file an affidavit,

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Mr. Chairman?

Chairman Frank: I do not think so. At least we will advise you if we think that will affect our judgment.

Mr. Browning: And I also have the question as to
900 whether it was desired that I file a memorandum of law.

Chairman Frank: There is no occasion to unless you want to do so.

Mr. Binford: Then, if the Commission please, I will avail myself this afternoon of the opportunity of dictating the statement which has been referred to in the record here. I will be glad to prepare that statement.

(Thereupon, at 11 o'clock a. m., the arguments were concluded and the Commission adjourned.)

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BEFORE THE 901

Securities and Exchange Commission

File No. 59-10

IN THE MATTER

of

THE NORTH AMERICAN COMPANY, *et al.*

902

Hearing Room 1103,
Securities and Exchange Commission Building,
Monday, July 15, 1940,
Washington, D. C.,

Met, pursuant to notice of the Commission, at 10:00 o'clock a. m.

Before: 903

W. W. SWIFT, Trial Examiner.

Appearances:

SULLIVAN & CROMWELL, by S. PEARCE BROWNING, JR., and CHARLES S. HAMILTON, JR., 48 Wall St., New York, N. Y., for Respondents.

RALPH C. BINFORD, Attorney for the Securities and Exchange Commission.

904 *Colloquy*

PROCEEDINGS

The Examiner: The hearing will be resumed. Are you ready, Mr. Browning?

Mr. Browning: Yes, sir. If the Examiner please, it will be recalled that at the last hearing which I believe took place on June 20, we moved for an adjournment for the preparation of our case and the Examiner then granted us an adjournment until today.

905 At that hearing, and when requesting an adjournment, I promised that I was going back to New York and work very hard, do the best we could, so that we would be in a position to put in as much evidence as possible.

I feel that in fairness to ourselves I must state for the record what happened subsequently. As soon as I returned to New York I received a telegram that an appeal had been taken from that decision of the Examiner and I was forced to come down to Washington again and argue the matter before the full Commission on the following Monday.

So far as I know, no decision has ever been handed down
906 on the appeal and the hearings are therefore reconvening pursuant to the original ruling by the Examiner.

I would like to point out in fairness to ourselves that not only was I brought back to Washington to argue about the adjournment, but that throughout the entire three weeks' period I have never known from day to day when the hearings were going to reconvene.

For example, one of the points which I mentioned on June 20 was the fact that it was important that I be able to leave for the Middle West. I have never been able to do

so because I didn't know from day to day when these hearings would reconvene.

I do want to say, however, that we have made a great deal of progress, we have got witnesses ready to put on the stand and that we are going forward and do our very best. We will go forward until we need more time to prepare the rest of our case.

Turning to another matter, the Examiner will recall the argument at the last hearing with regard to the Commission's exhibits, the question as to whether the Commission 908
could offer all of this material and not be bound by it, and that the Examiner directed that briefs be ready by the adjourned hearing——

Mr. Binford: (Interposing) I beg your pardon. I think the record doesn't show any determined time as to when those briefs were to be ready.

Mr. Browning: I will gladly accept that correction. My understanding was that they were to be ready. We have our brief ready, Mr. Examiner, and we are glad to file it.

(Discussion off the record.)

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Mr. Browning: In accordance with your ruling, Mr. Examiner, we are filing ten copies of our brief in this matter.

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The Examiner: All right, thank you. I will see that they are filed and taken care of.

Mr. Browning: We assume that counsel for the Commission will furnish us with their brief on this matter within a reasonable time.

Mr. Binford: Very easily, within ten days.

Mr. Browning: I might say in that connection I don't want to ask you to take less time than you want. I just wanted some estimate on your part.

The Examiner: Ten days is satisfactory, is it?

Mr. Binford: That is satisfactory to counsel for the Commission.

The Examiner: All right.

Mr. Browning: That is satisfactory to counsel.

The Examiner: All right.

911 Mr. Browning: The Examiner will recall that at the last hearing the Commission's staff offered in evidence the 20-foot bookshelf of documents and statistical material. Our review of those exhibits is far from completed.

It seemed to me that the first step was to get an index so I arranged to have people come down to Washington to get that index for me. The preliminary and quite incomplete index, because it doesn't give all the details, is 57 pages long, single-spaced.

The Examiner: That is the index?

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912 Mr. Browning: Yes, Mr. Examiner, and that is quite incomplete. We have been endeavoring to get to this matter but have not been able to make any real progress with it so that we will have to devote considerably more study to those exhibits later.

What we have in mind is that it will be possible to simplify certain of the material and I am sure that Commission's counsel and ourselves will have no trouble agreeing on that, but to work it out properly will require several weeks' work on our part.

I should like to take up now another development, Mr. Examiner, since the close of the last hearing. It will be recalled that at the last hearing the Commission's staff proposed to place in the record a so-called statement of position on their part which was not a statement of position by the Commission but rather of particular counsel for the Commission, and that upon objection the Examiner ruled that such statement should not be admitted.

It so happened that this matter came up at the argument before the full Commission on the question of adjournment 914 and at that argument one or more of the Commissioners indicated that they felt that it might assist the hearings if such a statement went into the record.

Accordingly I stated that I had no objection whatever to taking the matter up and discussing it at that time and it was finally arranged that counsel for the Commission would read the statement into the record that afternoon by giving

—98—

it to the reporter. That has been done and the statement is now a part of the record.

Subsequently I received the following letter from the 915 Commission, with which letter I think the Examiner should be familiar:

"By direction of the Commission——"

Mr. Binford: (Interposing) Pardon me. May it please the Examiner, I object to reading by counsel of the letter into the record unless the letter, itself, is offered in evidence, unless I first have opportunity to examine it to know whether there is any objection to it.

(Letter passed to counsel.)

916 *Colloquy*

The Examiner: Let the record show that the letter, at least a copy of it, was presented to Mr. Binford for examination.

Mr. Binford: I have no objection to the offering of the written letter in evidence.

Mr. Browning: If the Examiner please, I do not see that this question of offering in evidence--the letter was a formal demand for a statement of position by the Respondent as to the issues in the case. There had already been——

917 Mr. Binford: (Interposing) I still object to——

Mr. Browning: (Interposing) Could I just finish?

The Examiner: Let me ask this question, is there any

-99-

dispute about the accuracy of this copy that you have examined? If there is I would like for it to be compared with the copy in the Commission's files and see what the situation is.

Mr. Binford: Subject to later verification as to this being a true copy of the original of this letter, and a right at that time to object to it as not, I have no objection to the copy

918 being offered in evidence.

Mr. Browning: As to correctness of the copy, I shall, of course, be delighted to have Mr. Binford verify that at his convenience.

Mr. Binford: I object at this time to the statement by counsel as to the legal effect of it or as to any other matter of its contents, other than mere identification of the letter. The letter, itself, would make the best evidence.

The Examiner: Is there any objection on your part to introducing the copy of this letter in evidence after you have completed your statement?

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Mr. Browning: I have no objection to introducing it in evidence for the limited purpose of showing that such a letter was received by us as a statement by the Commission. If I may offer it for that limited purpose, I will be glad to do so.

The Examiner: Does that meet your objection, Mr. Binford?

Mr. Binford: I have no objection on that ground.

The Examiner: All right, you may proceed with your statement and later we will receive the letter with the reservation which you made.

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Mr. Binford: May it please the Examiner, what I am objecting to principally at this time is a statement by counsel as to the contents of the letter. The letter, or a copy thereof, is available to be introduced in evidence.

Mr. Browning: I think I go along with Mr. Binford on that and that the letter will speak for itself in the record.

The Examiner: Well, of course, the letter will speak for itself, but I will let you read from the letter if you need to do so in connection with the statement you are making.

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Mr. Browning: My suggestion is simply this, that since the position of counsel is now a part of the record, I would feel it was the best procedure to have this letter a part of the record and I offer this letter simply to show the step that was taken by the Commission, itself.

The Examiner: All right, the letter is admitted in evidence as Respondent's Exhibit 1.

Mr. Browning: The record shows, Mr. Examiner, does it not, that it is offered only for the limited purpose of showing the Commission's statement to us?

922 *Colloquy*

The Examiner: Yes. That is the reservation under which it is offered and received.

(The document referred to above was marked Respondent's Exhibit No. 1 and received in evidence.)

Mr. Browning: As the Examiner has noted from this letter, Respondent's Exhibit 1, the Respondents were called

—101—

upon or requested to furnish a statement to the Commis-
923 sion on or before July 5, 1940. In accordance with that request the Respondents did furnish a statement which is contained in a letter from Sullivan & Cromwell, addressed to the Commission, dated July 5, 1940, and I should like to read this letter, if I may.

Mr. Binford: I object on the ground that the letter, itself, is the best evidence. Further, counsel should have an opportunity to examine the letter and see if there are other grounds for objection.

(Document passed to Commission's counsel.)

924 Mr. Binford: Without conceding that the letter offered in evidence, to be more exact the carbon copy of the letter offered in evidence, having been addressed by counsel for the Respondent to the Commission, is in any respect a correct statement of the issues, and without conceding that the introduction of any evidence along the lines suggested by the letter is permissible, in view of the fact that The North American Company has heretofore filed an answer, as have the other Respondents, as a matter of law in connection with the notice and order filed by the Commission to determine

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the issues in this case until one or the other is admitted, I have no objection to the letter going in evidence as the reply sent on behalf of the Respondents to the letter of the Commission which has heretofore been offered in evidence.

—102—

The Examiner: Is that the purpose for which you produce the carbon copy, Mr. Browning?

Mr. Browning: In the first place as regards the carbon copy, the original of the letter is in the Commission's files. I should be very glad to——.

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The Examiner: As I understand, counsel has withdrawn his objection on the ground of the best evidence rule, have you not?

Mr. Browning: I understand he is reserving——

Mr. Binford: (Interposing) Insofar as this is a carbon copy, I am making no reservation.

The Examiner: All right.

Mr. Browning: If I understood counsel correctly, he wanted to reserve his right to compare this with the original in the Commission's files and make any correction from that original.

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Mr. Binford: You have no objection to that?

Mr. Browning: I have no objection whatever to that.

As to the second point which counsel makes, there now appears in the record a statement by the Commission's counsel on this subject and I am offering this letter for the purpose of showing the statement which we have made on the same subject.

Mr. Binford: If it is offered for that sole purpose I have no objection.

928 *Colloquy*

The Examiner: Very well. With that exchange of your gentlemen in mind, the letter is received as Respondent's Exhibit No. 2, subject to the right to compare it with the original and correct it if any corrections are necessary.

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(Document referred to was marked Respondent's Exhibit No. 2 and was received in evidence.)

Mr. Browning: Mr. Examiner, this letter deals with cer-
929 tain fundamentals of the case and accordingly I should like to read it.

"Securities and Exchange Commission,

Washington, D. C.

"Re: The North American Company and its Subsidiary Companies—File No. 59-10

"Dear Sirs:

"This is in reply to your letter of June 27, 1940.

930 I.

"In its order instituting the present proceedings, dated March 8, 1940, the Commission stated that the purpose of the hearing was to determine

"'(1) such issues, if any, as may arise from the allegations of Parts I to V hereof, inclusive, and the answer or answers filed thereto by the respondents herein or any of them as hereinabove provided, and by any other party or parties hereto as hereinafter provided; (2) what action, if any, is

necessary and shall be required to be taken by the respondents herein, or any of them, to limit the operations of the holding company systems of each of the registered holding companies hereinbefore named to a single integrated public-utility system, and to such other businesses as are rea-

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sonably incidental, or economically necessary or appropriate to the operations of such integrated public-utility system; (3) pursuant to such application as may be made herein, the extent to which each of the registered holding companies hereinbefore named shall be permitted to continue to control one or more additional integrated public-utility systems as provided by Section 11(b)(1) of the Act; and (4) pursuant to such application as may be made herein, the extent to which any of the respondents will be permitted to retain any interest in any business (other than that of a public-utility company as such) as provided by Section 11(b)(1) of the Act'. 932 933

"The material issues arising from the allegations of Parts I to V of the order and notice of hearing dated March 8, 1940, and the respondents' answers thereto, arise from the allegations of paragraph 63 of the order and notice of hearing and paragraphs 2 and 7 of the answer of The North American Company (and corresponding sections of the answers of the other respondents).

"Paragraph 63 of the order and notice of hearing states that it appears to the Commission that

934 *Colloquy*

"'The holding company system of The North American Company is not confined in its operations to those of a single integrated public utility system within the meaning of the Act, and to such

other businesses as are reasonably incidental, economically necessary or appropriate to the operations of such integrated public utility system.'

935 "Paragraph 2 of the answer of The North American Company states:

"'2. In answer to paragraph 63 of said order, respondent alleges that the provisions of the Act are so vague and uncertain that the respondent does not have knowledge or information sufficient to form a belief as to what constitutes a single integrated public utility system within the meaning of the Act, or as to what constitutes such other businesses as are reasonably incidental, or economically necessary or appropriate to the operations of such system within the meaning of the
936 Act.'

"Paragraph 7 of the answer of The North American Company states in part:

"'The respondent, on information and belief, alleges that Section 11 (b) (1) of the Public Utility Holding Company Act of 1935, and any other provisions of said Act which may be used to implement the purposes of said Section 11 (b) (1), if and to the extent that they purport to require action to

be taken by the respondent (including the divestment of control, securities or other assets) to dispose of its valuable investments or any substantial part thereof or to limit the operations of any of the registered holding companies named in said

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order to a single integrated public utility system, and to such other businesses as are reasonably incidental, or economically necessary or appropriate to the operations of such integrated public 938 utility system, are invalid, void and of no effect in that they violate and contravene the provisions of the Constitution of the United States and the Amendments thereto, * * *".

"Thus the issues, broadly stated, arising from the order and notice of hearing and the answers thereto, and Section 11(b)(1) of the Act, from which all of the Commission's authority to institute and maintain the proceedings must be derived, are:

"1. Whether the holding company system of The 939 North American Company is or is not confined in its operations to (a) those of a single integrated public utility system within the meaning of the Act, (b) such additional integrated public utility systems as meet the requirements of Section 11(b)(1) of the Act, and (c) such other businesses as are reasonably incidental, or economically necessary or appropriate to the operations of such integrated public utility system within the meaning of the Act.

940 "2. Whether, if the provisions of Section 11(b)(1) are to be or can be applied to the holding company system of The North American Company, and if the Commission shall so find, and that their application

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requires The North American Company or any of its subsidiaries to divest itself of any valuable investment, any order of the Commission for such purpose under Section 11(b)(1) is constitutional.

941 II.

"Accordingly, the first issue, as we understand the proceeding, and therefore the first step in the administrative process, is a defining of The North American Company system's utility properties in terms of single integrated systems; with the further determination of whether any of such systems, if it be found there is more than one, meet the requirements for 'additional' systems.

"The statutory definition in Section 2(a)(29) furnishes the following characteristics of 'a single integrated public-utility system':

942 "(i) *Capability of physical interconnection.*—'physically interconnected or capable of physical interconnection',

"(ii) *Economy of operation,*—'under normal conditions may be economically operated as a single interconnected and coordinated system',

"(iii) *Single region,*—'confined in its operations to a single area or region, in one or more states', and

"(iv) *Size,*—'not so large as to impair (considering the state of the art and the area or region affected) the advantages of localized management,

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efficient operation, and the effectiveness of regulation'.

"Manifestly, the application of these norms or characteristics of a 'single integrated public-utility system' to the operating subsidiaries and groups of subsidiaries of The North American Company, if they can 944
be applied at all at this time, requires the most careful and exhaustive investigation into the facts concerning the physical properties, nature and method of operation, area or region of service, type of management and effectiveness of state regulation for each company in the North American system.

"If the Commission should find that there are two or more single integrated systems it must next apply the (A), (B) and (C) standards of Section 11(b)(1) in order to determine whether any such systems may 945
be retained as 'additional integrated systems', and evidence as to the properties and activities of the respective companies would be requisite on this issue.

"The next issue arising in any attempt to apply Section 11(b)(1) to the North American system is a determination of what businesses are found in the holding company system, in addition to 'a single integrated public-utility system' and such 'additional integrated public-utility systems' as meet the requirements of Section 11(b)(1), and whether such other busi-

nesses 'are reasonably incidental, or economically necessary or appropriate' to the operations of the 'integrated public-utility system'.

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"The North American Company owns a controlling interest in The North American Light & Power Company, and there is, therefore, involved in the case also the question of whether the operating properties of The North American Light & Power Company system,
947 or any of them, can be combined with any of the properties of The North American Company system. The definition of a single integrated public utility system in paragraph 2(a)(29) provides that electric properties may constitute a single integrated system *'whether owned by one or more electric utility companies'*. Accordingly, if any of the properties in The North American Light & Power Company system meet the statutory tests, alone or in combination with any of the properties or groups of properties of The North American Company system discussed above, such
948 properties of The North American Light & Power Company could be deemed a part of The North American Company integrated system or systems.

III.

"Should the Commission hold that Section 11(b)(1) requires the North American Company to dispose of any of its assets, there is raised by paragraph 7 of its answer the fundamental issue as to whether Section 11(b)(1) is constitutional. This necessarily involves the issue of whether the North American

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Company and its subsidiaries are subject to the jurisdiction of the Federal Congress and the Commission, whether Section 11(b)(1) is not an unlawful delega-

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gation of legislative power, whether without violating due process of law, Congress and the Commission may require The North American Company or any other respondent to dispose of any of its valuable assets lawfully acquired, and whether such action is not a usurpation of the powers reserved to the states under 950
the Tenth Amendment and otherwise in violation of the Constitution. The determination of such constitutional issues, both by the Commission and by the Courts upon any subsequent appeal, should be made upon a record giving all the necessary facts.

"Accordingly, on the constitutional issues alone the evidence should show all of the facts concerning the property, business and operations of The North American Company and each of the companies in its holding company system and the intercorporate relations between them, so that it can be determined 951
whether any of them is engaged in interstate commerce and, if so, the extent thereof, and whether their operations directly affect interstate commerce and are therefore subject to the jurisdiction of the Federal Congress or of the Commission, and whether the continued ownership by The North American Company of all of the assets now comprising its system burdens or harmfully affects interstate commerce, and whether, in the event the Commission should order The North American Company or any of its subsidiary com-

panies to divest themselves of any of their assets, such order is a proper and reasonable exercise of jurisdic-
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tion, whether any abuses or problems exist among the companies in The North American Company system which would justify such a divestment order, the extent to which any such divestment would harm The North American Company and deprive it of property without due process of law, and whether any such
953 divestment is reasonably and appropriately designed to accomplish any legitimate Federal objective, and whether Section 11(b)(1) does not in any case constitute an unlawful delegation of legislative power.

IV.

"The foregoing, as we understand it, sets forth substantially the basic issues. In addition, it should also be noted that certain issues of fact arise from paragraph 1 of the answer of The North American Company. There will also arise, of course, from time
954 to time, incidental issues as to matters of interpretation and the like, to which we do not refer at this time.

"The program set forth in Part III of The North American Company's answer cannot be considered as limiting or narrowing the scope of the issues in this proceeding. That program is based entirely upon the hypothesis that the steps therein set forth would be voluntary, with the executives of The North American Company enabled to devote their full time to such matters and without fixed limitations of time in which the steps might be completed. The Company proposed

such voluntary program in good faith, and in the hope of a constructive disposition of this proceeding, and

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still believes that such voluntary action would be preferable. However, the Commission, by denying respondent's motion to hold these proceedings in abeyance pending the consummation of such voluntary program, refused to permit respondent to proceed therewith and instead elected to litigate the issues. The Commission has no power to require The North 956
American Company to take any step except as provided in Section 11(b)(1), and any such order, under Section 11(c) must be complied with within one year, or at the maximum two years, of the date of the order. Such procedure, namely by order rather than voluntary, and with time limitations rather than when conditions permit, is wholly foreign to the procedure suggested by The North American Company when it stated in Part III of its answer certain steps which it proposed to take if, as and when they could be consummated. Accordingly, the program in Part III of 957
The North American Company's answer cannot be regarded as limiting the scope of the issues in the present hearing.

"It may be further noted that counsel for the Commission has taken the position that, as a matter of law, The North American Company's investments in The Detroit Edison Company and Pacific Gas & Electric Company may not be retained by it. As set forth in paragraph 6 of the Commission's notice and order, such Companies have filed applications for exemption

958 under Section 2(a)(8) of the Act and such applications are pending and undetermined. Accordingly,

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neither of such Companies can be regarded as a subsidiary of The North American Company for any purpose at this time. Since Section 11(b)(1) refers to 'such action as the Commission shall find necessary to limit the operations of *the holding company system* * * *' and 'holding company system' is defined in Sec-

959 tion 2(a)(9) as including 'any holding company together with all *its subsidiary companies* * * *', it would seem clear that the investments in The Detroit Edison Company and Pacific Gas & Electric Company are not involved in the present proceeding, nor could they be dealt with appropriately until the primary question of their status has been determined. Accordingly, while we do not agree with the legal position of counsel for the Commission, it is the position of The North American Company that in any case the status of such investments is not at issue in the

960 present proceeding.

V.

"We believe that the foregoing statement, which is made on behalf of respondents, The North American Company and its subsidiaries, covers the four questions contained in your letter of June 27, 1940. However, such questions may be taken up in order, as follows: As to question 1, we do not consider that the issues have been correctly stated by counsel for the Commission in his statement submitted for the record on June 21, 1940, except in so far as certain

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issues specified by him are included in the issues set forth in this reply. As regards questions 2, 3 and 4, respondents consider to be at issue the retention of

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all the utility properties of The North American Company system and all of the businesses which the Commission finds to be in such system, whether as a single integrated system or as additional systems, and all questions which may arise under Section 11(b)(1), including the (A), (B) and (C) standards thereof."

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BEFORE THE

Securities and Exchange Commission

File No. 59-10

IN THE MATTER

of

THE NORTH AMERICAN COMPANY, *et al.*

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Hearing Room 1102-A,
Securities and Exchange Commission Bldg.,
Monday, August 5, 1940,
Washington, D. C.

Met, pursuant to recess at 10:00 o'clock a.m.

Before: W. W. SWIFT, *Trial Examiner.*

966 Appearances:

CHARLES S. HAMILTON, JR., of Sullivan & Cromwell, 48 Wall Street, New York City, N. Y., Attorneys for the Respondents.

S. PEARCE BROWNING, JR., of Sullivan & Cromwell, 48 Wall Street, New York City, N. Y., Attorneys for the Respondents.

RALPH C. BINFORD, and E. M. CALKIN, Attorneys for the Securities and Exchange Commission.

PROCEEDINGS

The Examiner: The hearing will come to order.

Mr. Hamilton: Mr. Lindseth!

Whereupon, ELMER L. LINDSETH called as a witness on behalf of the Respondents, being first duly sworn, was examined and testified as follows:

Direct Examination by Mr. Hamilton:

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Q. Will you give your name to the reporter? A. My name is Elmer L. Lindseth.

Q. And your address? A. Hudson, Ohio.

Q. You are connected with Cleveland Electric Illuminating Company? A. Yes, I am; I am technical assistant to the President of the Cleveland Electric Illuminating Company.

Q. Will you describe your various functions and services with the Cleveland Electric Illuminating Company since you first began your connection with the company? A. I began working for the Cleveland Electric Illuminating Company in 1925, temporarily employed, while still in college, on a 969 job testing power plant equipment.

At the completion of my work in college I returned to the company in a permanent capacity as a junior tester in the

Production Department, and in that job worked in the testing of power house equipment, the calculation of system efficiencies and economies, the design calculations of heat balance, and other engineering calculations of power plants, and similar duties—strictly a subordinate position.

970 *Elmer L. Lindseth—By Respondents—Direct*

In 1927 I was made production engineer for the company in which position I was in charge of the technical engineering for the operation of the power plants of the system.

The production engineer was responsible for the efficiency of operation of the system; the economical allocation of load between power plants; certain of the design phases, particularly those influenced by efficiency and economy; the maintenance of certain types of equipment; and in that capacity I had, at various times, a staff of from 20 to 30
971 engineers, assistants and the like.

In 1937, I became assistant to the executive engineer for the company. The executive engineer of the company is in charge of all phases of the company's engineering, mechanical engineering, electrical engineering, civil engineering, design, construction, research, joint wire relations with other utilities, and the statistical departments of the company.

I served as assistant to the executive engineer.

During this period I made a comprehensive investigation of the company's sales and advertising policies, the accounting therefor, the results obtained, the methods pursued, the
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measure of results—in short, all phases of the sales promotion and advertising business of the company.

During 1938 and 1939, in connection with an investigation of the company by a firm of engineers employed by the City of Cleveland, in connection with a report to be prepared for the basis of a rate ordinance, I was in charge of the company's parallel report on all phases of the operations of the company, its accounting, its fixed asset accounts, depreciation, business promotion, rates, service, all phases of the

company's business as would be necessary to form the basis for an adequate ordinance to regulate the rates of the company.

Shortly thereafter, in 1939, and the early part of 1940, I was in charge of a staff of engineers which at times reached more than 200, in connection with an inventory and appraisal of the property of the company devoted to the service of the City of Cleveland, and in that connection participated in the conferences with the Public Utility Commission of Ohio and the Council of the City of Cleveland, since this 974
inventory and appraisal was being performed in accordance with the requirements of the Public Utility Commission of Ohio and the City Council of the City of Cleveland.

This investigation, too, embraced all phases of the company's business, operating expense, fixed assets, depreciation policies, rate-making and similar phases.

I participated in the hearings and negotiations, the con-

ferences with the Public Utility Commission and with the City Council of the City of Cleveland, and this culminated in a rate ordinance which terminated the case. 975

During this period I became technical assistant to the president of the company, in which capacity I now serve, in an advisory capacity to the president in technical and operating matters.

Q. Your service with the company has been continuous since 1926? A. Yes, since August, I think, 1926—yes, August, 1926.

Q. Now previous to your service with the company, what had been your business experience? A. Well, I had worked

976 summers while going to college, for the New York Central Railroad Company and for the National Acme Company. In the former of those, I had been in electrical maintenance and construction work, in line gangs, and had served as a ground man in a line gang: and in the latter of them, the National Acme Company, I had been a machine operator.

Q. Will you state your education? A. I was educated in the public schools in Cleveland. I was graduated from Miami University in 1923 with an A.B. Degree; from Case
977 School of Applied Science in 1925, with a degree of Bachelor of Science; and from Yale University in 1926, with a degree of Master of Science.

Q. You are a registered professional engineer in Ohio?

A. Yes, I am a registered professional engineer in the State of Ohio, No. 2656.

Q. In order that we may identify the names of the companies as to which your testimony will be directed, would you give the names of the companies comprising the Cleve-
978 land group, and in a word or two state the business which they do? A. The companies in the Cleveland group are three in number, the Cleveland Electric Illuminating Company, which is engaged in the electric utility business, and incidental thereto, the steam heating business in the City of Cleveland.

There are two subsidiaries of the Cleveland Electric Illuminating Company—the Power & Light Building Co., which owns title to the office building in which the offices are located, and the Ceico Company, which is an incidental subsidiary devoted primarily to the servicing and maintenance

of meters on consumers' premises, but incidentally holds title to real estate which is temporarily acquired for construction and is to be disposed of.

Q. Both of the latter two companies you have referred to are direct subsidiaries of Cleveland Electric, is that right? A. Both are wholly-owned subsidiaries, and neither is a public utility.

Q. Now in order to get an overall picture of the area which the Cleveland Electric Illuminating Company serves, would you indicate briefly the territory served by its electric 980
service? A. Hereafter, in referring to The Company, I

will mean the Cleveland Electric Illuminating Company; and when any of the subsidiaries are referred to, I will refer to them by their complete name.

The Company serves a compact industrial and agricultural area in the Northeastern part of Ohio, centering around Cleveland, but including three other Lake cities, Conneaut, Ashtabula, and Fairport.

Mr. Hamilton: I ask that this document be marked 981
for identification as Respondents' Exhibit No. 21.

The Examiner: That may be done.

(The document referred to was marked Respondents' Exhibit No. 21, for identification.)

By Mr. Hamilton:

Q. Will you explain what Respondents' Exhibit 21 for identification portrays? A. This map shows the territory served by the Company, it being the area outlined by the heavy black line.

982 *Elmer L. Lindseth—By Respondents—Direct*

Q. Has the map been prepared under your supervision? A. Yes, it has.

Q. The facts shown are taken from the records of the Company, is that correct? A. Yes, the data are definitely from the records of the Company.

Mr. Hamilton: I offer it in evidence as Respondents' Exhibit 21.

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Mr. Binford: No objection.

983 The Examiner: All right, it is received in evidence under the number assigned.

(Respondents' Exhibit No. 21 was received in evidence.)

By Mr. Hamilton:

Q. Please refer to the map wherever necessary in your testimony. A. The territory shown is along the South shore of Lake Erie in the Northeastern portion of Ohio, and the vertical line at the right of the map is the Pennsylvania-

984 Ohio border. The territory extends Westward from this Pennsylvania-Ohio line about 100 miles, to the point marked Avon, and it has an irregular Southern border, yielding an average depth for the territory of about 17 miles in an aggregate area of about 1,700 square miles.

Q. Now would you explain the significance of the double cross-hatched area which contains the legend "Cleveland and suburbs", on Exhibit 21? A. At the left center of the map, there is a double cross-hatched area labeled, "Cleveland and suburbs", and in parenthesis, "Cuyahoga County". The double cross-hatched area comprises the municipalities shown

in the list of cities and villages up in the legend, a substantial number, probably 50, which comprise Cleveland and immediate environs. In fact, that list includes all of the cities and villages in Cuyahoga County.

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The portion double cross-hatched, not only in Cleveland but throughout the map, is territory in which the distribution facilities are so many in number as to make it impractical to portray the facilities in the one-line diagram and it is intended that double cross-hatched areas be regarded as 986 having facilities available to all portions of the city.

The single cross-hatched areas, that is, lines going in only one direction, are incorporated municipalities, but are not necessarily of such population density as to justify lines of such frequency that they can not be portrayed. So that there, the distribution facilities are shown, even though the area is an incorporated municipality.

Q. Now there appear on the map a number of letters, such as LD and HR. Would you mind explaining the significance of those letters? A. If you will refer to the left center of the map again, the portion which is Cleveland, those symbols 987 of two letters are the symbols for distribution sub-stations, or transmission sub-stations, or power plants, and are a part of the company's code of identifying properties and lines.

For example, the symbol "LS", near the large circle, labeled "Lake Shore", is the abbreviated symbol for Lake Shore power plant.

Similarly, just below, the symbol "SC" is the abbreviated symbol for St. Clair sub-station.

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988 *Elmer L. Lindseth—By Respondents—Direct*

Throughout the map this code is embodied, and it conforms with the Company's records for identifying property.

Now Cleveland is the commercial and trading center of this area. The population of the entire area is about 1,400,000 people.

Q. That is, the entire area served by the Company? A. The entire area in which the Company serves.

Of this 1,400,000, about 1,215,000 is in Cuyahoga County alone, in which is located the city of Cleveland, the popula-
989 tion of which is 875,000.

Cleveland distributes to the territory, and the territory in turn produces some products marketed in the Cleveland markets.

Of the total area served by the Company, a little over 500 square miles is shown cross-hatched, and is incorporated territory. The uncross-hatched sections are about 1,156 square miles, and are, by our definition, rural, although it should be pointed out that certain of the territory which is cross-hatched and is an incorporated municipality, is in fact rural in the popular conception of what is rural.

990 Q. If we may go back for just a moment, are your population figures based on Census figures? A. The population figures are preliminary 1940 Census data.

Now this territory served comprises a little over 4 per cent., 4.2 per cent. of the area of the State of Ohio. The

population contained therein, 1,400,000 people, is about 20 per cent. of the population of the State of Ohio. The electricity sold in the area by the Company and others aggregates about 1,785,000,000 kilowatt hours as of 1939, which is

25 per cent. of the energy sold to ultimate consumers in the State of Ohio last year.

The figures then reveal, first, a high population density, because 20 per cent. of the people in the State reside in 4 per cent. of the area; but more than that, those 20 per cent. of the people used 25 per cent. of the electric energy sold to ultimate consumers in the State of Ohio last year.

Q. Is Cleveland the economic center of the territory shown as being served by the Company? A. Cleveland, as would be expected, is the economic center of this territory. 992
The roads converge on Cleveland, the railroads, the bus lines converge on Cleveland, and the territory in reality is a single wholesale area, and in substantial measure a single retail area.

A substantial portion of the people who actually work in downtown Cleveland live in these surrounding townships, and even in adjoining counties, and with modern means of transportation they travel to work by automobile, bus, railroad, rapid transit, and other means of public transportation.

Cleveland, in keeping with the trend in certain other 993
large cities, is decentralizing, that is, population is moving out of Cleveland to the suburbs; industry, in some measure,

is building new plants not inside Cleveland, but in the industrial suburbs and adjoining communities.

For example, the population of Cleveland in 1930 was 900,000 people, by official Census; by 1940, that population had declined to 875,000 people in municipal Cleveland, which is the compact inner municipality.

994 *Elmer L. Lindseth—By Respondents—Direct*

Cuyahoga County, however, has increased in population in the same period, as have Geauga County, which is a county immediately to the East, and Lake County, which is a county to the East along the Southern shore of Lake Erie. These have increased—in Lake County, from 41,000 to 48,000; and in Geauga County—from 15,000 to 17,000 population.

These main highways which serve the territory are, the most important of them, 11 in number, United States and
995 State routes, which do converge on the center of Cleveland.

The distances are not great. From the center of Cleveland, which is mathematically that circle described as "PS" in the center of the map, right under the symbol "Lake Shore" that symbol is "Public Square sub-station" of the Company, and is located on the Public Square of the City of Cleveland. The distance from there to the Western extremity is about 25 miles, and to the Avon plant, 23 miles, a distance that is ordinarily covered in something less than 40 minutes.

To the extreme Eastern limits of the territory, the Penn-

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996 sylvania-Ohio line, is about 75 miles, and to Conneaut, the city in the upper right-hand corner of the diagram, the distance is 72 miles, and is normally covered in something less than 2 hours.

Q. Now if you will explain the meaning of these various names that appear on the exhibit, No. 21; for example, the name "Geneva" appearing in the right-hand upper section? A. Names in the type face shown by the word "Geneva", or immediately above, "Geneva-on-the-Lake", those names are the names of incorporated municipalities. Some are cities, some are villages.

Q. These names don't represent all the towns and villages in the entire territory, but rather, the larger towns and cities or villages, is that correct? A. No, I think rather that every incorporated municipality outside Cuyahoga County does have located near it on the map, its name. The large number of them in Cuyahoga County makes it impractical to put them on the map, and they are shown in the legend. I think every municipality served is indicated on the map by title.

The distance to some of these other outlying communities, Jefferson, for instance, which is just below Ashtabula, is 59 998 miles from the center of Cleveland; Rock Creek, just below it, is 53 miles; Chardon, in the right center of the map, which is the County Seat of Geauga County, is 30 miles from the

center of Cleveland, normally about 50 minutes of travel.

Because this territory is one rather densely populated and has adequate roads, there are likewise numerous railroad facilities, and the territory is served by 7 railroads: the New York Central; the Baltimore & Ohio; the Big Four; the Erie; the Nickel Plate; the Pennsylvania, and the Wheeling & Lake Erie. 999

Four of these use a single passenger terminal in the center of Cleveland on the Public Square, and two of them, the New York Central and the Big Four, are electrified, taking service from the Company from, roughly, the Eastern limits of Cleveland to and through Cleveland to the Western limits of Cleveland.

While there are numerous private airports in the territory, a single mainline commercial airport serves the entire territory, and that is the airport located in Cleveland, from which some 214,000 passengers cleared last year.

1000 *Elmer L. Lindseth—By Respondents—Direct*

Q. What are the population characteristics of the territory served? A. These 1,400,000 people to which I have referred, of which 1,200,000 live in Cleveland, are families of industrial, commercial and agricultural interests.

Last year a survey showed that there were about 325,000 families in Cuyahoga County. The 1930 Census showed that 28 per cent. of the family heads in Cuyahoga County were native Whites, of native parentage; 26 per cent. were White, of foreign or mixed parentage; 40 per cent. were foreign-

1001 —603—

born White; and 6 per cent. Negro.

Now as indicative of the character of the community, the residential use of electricity in 1939 for these consumers was 924 kilowatt hours per consumer. In the United States as a whole that year, the average use per residential consumer was 897. So that the average use per residential consumer in this territory is slightly higher than in the United States as a whole.

Q. By "this territory" you mean the entire service territory? A. The entire territory in which the Company serves.

1002 Q. Shown on the map? A. Yes. And this is the more significant, perhaps, when it is considered in the light of the availability of natural gas in this territory where the development of the electrical cooking load and the electrical water-heating load is definitely less than in many other communities where natural gas is not available at low cost.

Further, as evidence of the character of this community, the average family income in 1929 was slightly over $2,000. By 1932 this had dropped to $1,400; and in 1933, it had further dropped to $1,243.

In Cuyahoga County, the number of residential telephone subscribers was about 155,000 last year. That is, the number

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of telephone subscribers was less than one-half of the number of families in the community.

The number of direct relief cases this year, May 1940, was 33,900, or the ratio between the number of relief cases and the number of families was about one in ten.

The number of certified persons in Cuyahoga County employed by the W. P. A. in June of this year was slightly 1004
over 26,000, or a number which bears a ratio of 8 per cent. to the total number of families.

The estimated number of jobless people in Cuyahoga County on June 1, was 117,900.

Q. That includes persons on direct relief, does it? A. That does include the persons on direct relief. That is a number which equals roughly 10 per cent. of the population of Cuyahoga County.

Now in addition to Cuyahoga County, to which I have given considerable attention, the Company's territory em-
braces parts of four other counties. On the extreme West, 1005
a portion of Lorain County; immediately to the East and the Southerly part, Geauga County; to the East of the central part of the map, Lake County; and to the extreme right, Ashtabula County.

The territory includes 133 political sub-divisions, 15 cities, 67 villages and 51 townships.

Q. In order that we can get some idea of the relative size of the communities outside of Cleveland proper, would you indicate the cities or incorporated villages having a

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important industrial enterprises; Garfield Heights, a city of 17,000, a middle-class residential suburb; Lakewood, along the shore of the Lake to the West of Cleveland, with a population of 69,000, principally residential, but including some industries; Maple Heights, population 6,700; Parma, population 16,000; Rocky River, 8,000; Shaker Heights, 23,000; South Euclid, 6,000; University Heights, 6,000.

This, I think, completes a description of the cities in the territory. There are a number of villages, 67 in fact, in the
1013 territory, ten of them of a population more than 2,500, and in their area are important centers.

With minor exceptions, the Company's service area is continuous, that is, the area enclosed by the outline of this map is served exclusively by the Company with four exceptions.

One is the City of Cleveland proper, in which there is located a municipal plant of 50,000 kilowatts, presently

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installed capacity; and in which is being installed an additional 37,500 kilowatts, to bring the total capacity to 87,500
1014 kilowatts. This plant serves 54,000 customers in a spotty area within the corporate limits of Cleveland, had an annual revenue last year of about $3,500,000——

Q. (Interposing) That is gross revenue? A. That is gross electric revenue. I had better add that it would be gross revenue alone, because there is some revenue from the sale of steam.

A second exception, to which I have referred briefly, is the City of Painesville, of 12,000 population, served by its own municipal generating and distribution system, which has a capacity of about 8,000 kilowatts, and serves 4,500

population of in excess of 5,000, located, of course, in the territory outlined in the map? A. Outside Cuyahoga County, there are located in Lake County two cities of 5,000 population and above, both shown in the right center at the South shore of Lake Erie, Fairport; and immediately below it, Painesville. Each has a population of about 6,000. The territory indicated as Painesville is not cross-hatched, however, because it is not served by the Company, having a municipal plant within its own limits. It is one of three
1007 cities in the territory served by municipal generating plants, the other two being the City of Cleveland, and the third, a city by the name of Berea, shown on the map at the lower left-hand portion of Cuyahoga County, where is shown the symbol "BL".

These two communities, then, Fairport and Painesville, each of 6,000, are the principal cities in Lake County. Excuse me, there is another, Willoughby, shown again as a white area, where there is, however, no municipal generating plant, but a municipal distribution system which buys its energy for distribution from the Company. These are the three
1008 cities, then, in Lake County.

To the East, then, in Ashtabula County, is the City of Ashtabula, of 21,000 population, and the City of Conneaut, of 9,000 population.

In Ashtabula there are located docks and facilities for

Lake shipment; it is an important ore receiving and coal shipping center; with shops of the New York Central Railroad; canneries, manufacturing plants, and it is the center of a substantial greenhouse area.

1009

Conneaut is not different in its general character. It, too, is an important Lake shipping port for iron ore and coal, and has incidental manufacturing.

I have made a misstatement on the population of Painesville, and it should be 12,000, rather than 6,000.

Now the third of these counties, to the East, served by the Company, Geauga County, contains no community of 5,000 population.

Chardon is the County Seat of Geauga County, and has a population of 1,800.

1010

In these small communities shown, as Chardon, Burton, Middlefield and the like, the population is not high because they are definitely rural communities, although there is industrial and manufacturing enterprise.

In a town like Chardon, there is located the Chardon Rubber Company; in Middlefield, there is likewise a rubber company, the name of which I don't have available.

That, I think, includes the cities and important villages of the three counties to the East of Cuyahoga.

In Cuyahoga County are located 13 cities of 5,000 population and above. The City of Cleveland proper, about which I

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have already talked; the City of Cleveland Heights, of 55,000 population, a residential suburb; the City of East Cleveland, 39,000 population, a residential suburb; the City of Bedford, of 7,000 population, a residential and industrial suburb with several important plants in it; the City of Euclid, up against the shore of Lake Erie, population 17,000, classed as an industrial suburb, where are located such plants as the Chase Brass Company, the General Electric Company, the Addressograph and Multigraph Company, and a number of other

customers, and had a gross revenue from the sale of electricity of about $225,000.

Q. These figures on gross revenue are, of course, for 1939, are they? A. They are for 1939, yes.

The village of Willoughby, which owns a distribution system only, and purchases energy from the Company, serves 1,400 customers, with an aggregate load of 900 kilowatts, and distributed less than 4,000,000 kilowatt hours last year.

The fourth of these exceptions, the City of Berea, in Cuyahoga County, has a municipal generating and distribu- 1016
tion system and serves 1,750 customers, 2,125 kilowatts of capacity, and had an annual revenue last year of about

$114,000.

With these principal exceptions, the territory served is continuous. There are, however, minor additional exceptions in the City of Cleveland where there are three very small utilities, the Cleveland Light & Power Company, the Bradley Electric Light, Heat & Power Company, and the Euclid Doan Power Company.

The first of these, the Cleveland Light & Power Company, 1017
purchases all of its electric energy from the Cleveland Electric Illuminating Company, and distributes to consumers in buildings in a limited area downtown.

The second of them——

Q. (Interposing) Just a moment, if you will. Do you know how many customers the Cleveland Light & Power Company has? A. That company has between 300 and 400 customers in a limited area of this congested downtown district, an aggregate load of 1,200 kilowatts, and a sale of less than 4,000,000 kilowatt hours a year.

The second of them, the Bradley Electric Light, Heat & Power Company, purchases some of its electric energy from the Cleveland Electric Illuminating Company, and generates the rest of it. It serves a few more than 500 customers, again in a compact downtown area, largely in buildings owned by interests which own the power plant, with an aggregate load of 1,270 kilowatts, and an annual energy again less than 4,000,000 kilowatt hours.

—610—

1019 The third of them, the Euclid Doan Power Company, serves an area in the Euclid-East 105th Street district. The number of customers is less than 500, the revenue last year from the sale of energy was about $150,000.

Q. Does it generate its own power or buy it from the Company? A. It does generate some of its own energy, but that which it buys it does not buy from the Company, but buys from the Cleveland municipal light plant.

Now in this area then, with the discontinuities which we have noted, the Company serves a total of 330,000 customers. These customers, as of last December 31, comprised
1020 286,000 residential customers, 42,000 general commercial customers, about 1,800 large commercial and industrial customers, about 100 street-lighting customers, two railways, two other utilities, and about 400 miscellaneous customers.

The Examiner: Does the Cleveland Electric Illuminating Company go into the areas served by these smaller companies which you have mentioned; in other words, does it compete with them?

The Witness: In the case of two of the municipal plaints, Painesville and Berea, the answer is no, we

1021

do not, that in those two municipalities the municipal plants serve exclusively.

In the third of them, in Willoughby, where the new municipal distribution system is owned by the

—611—

village, we do not compete for residential consumers, they serve them exclusively, but we serve the industrial and the large commercial coustomers, such as a factory which the distribution system owned by the municipality is not in a position to serve.

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In the City of Cleveland, proper, the municipal plant owned by the City serves a few limited areas exclusively, in which we have no facilities, in which the Company has no facilities, but generally speaking it serves in a competitive area with the Company, where they both have facilities.

In these territories, then, served by these various small private companies, such as I mentioned last, those are in some measure in buildings privately owned, to which, obviously, we have no access, being served by the owners. They are cases of private plants within a single building having been expanded to take care of the adjacent building, and then a third building across the street, perhaps.

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In the Euclid Doan Power Company's area, the Company and the Euclid Doan Power Company, compete for some business, and in some buildings wholly served by Euclid Doan Power Company we do not compete.

1024 *Elmer L. Lindseth—By Respondents—Direct*

By Mr. Hamilton:

Q. Now with the exception of these limited spheres serviced by others, the entire area shown on the map is served solely by Cleveland Electric; in other words, there are no

—612—

other utilities in that area selling to others, is that correct? A. That is correct, there are no other public utilities that——

Q. (Interposing) Speaking of electric? A. In the terri-
1025 tory served by the Company, electric public utilities.

Mr. Hamilton: May this document be marked as Respondents' Exhibit 22 for identification?

The Examiner: Let it be so marked.

(The document referred to was marked Respondents' Exhibit No. 22, for identification.)

By Mr. Hamilton:

Q. Will you explain what Respondents' Exhibit No. 22 for identification portrays? A. This sheet shows certain
1026 statistics of the growth of the company. The lowermost curve, the dotted line, is the number of electric customers as of the end of each year, shown in the legend below.

The line immediately above it, the full line, shows the annual peak load in kilowatts. Excuse me, the scale for the lowermost curve is to the extreme right of the chart.

The second curve from the bottom, instantaneous peak load, has its legend likewise at the extreme right.

The third line is the installed aggregate generating capacity of generating plants, with the legend at the extreme

—613—

right.

The fourth, the dash and dot line, shows the total fixed assets of the Company as of December 31, electric and steam, and has its legend the innermost one at the right.

The topmost line shows the net kilowatt hour output from the generating plants on the system, and has its legend at the extreme left of the sheet.

Q. This diagram has been prepared under your supervision? A. Yes, it has.

Q. And the facts shown therein are taken from the Company's records? A. They are. 1028

Mr. Hamilton: I offer it in evidence as Respondents' Exhibit No. 22.

Miss Calkin: No objection.

The Examiner: It is so received in evidence under that number.

(Respondents' Exhibit No. 22 was received in evidence.)

The Witness: We have just referred to the fact that the number of customers of the Company at December 31, 1939, aggregated 330,000. 1029

It will be noted from reference to that lowermost curve that ten years ago, as of 1930, the number of customers was 308,000; about 20 years ago, in 1920, the number of customers was 165,000. That is, in the last 20 years, the number of customers of the company

has doubled.

In the ten-year decade prior to that, however, the number of customers increased from 30,000 in 1910, to 165,000 in 1920, an increase of 5½ times.

1030 In the ten years prior to 1910, the scale is here no longer such that we can tell precisely, but the number of customers as of 1900 was probably on the order of 1 or 2 thousand, an increase of 10 or 15 times in the number of customers between 1900 and 1910.

By Mr. Hamilton:

Q. Has the development shown by the chart in number of electric customers and also in kilowatt hours of output, been
1031 due solely to the growth of the Company's own facilities? A. No, that isn't quite the case. This growth in number of customers and in output is very largely due to an increase in the company's facilities by growth into theretofore unserved areas, but in some substantial measure is due to the acquisition of properties by purchase.

I say "substantial". In the course of the Company's history there have been acquired by purchase public utilities privately owned or municipally owned in an aggregate amount of about $6,000,000.

The present total electric property of the Company is of
1032 the order of $140,000,000, and including retirements, it has comprised about $160,000,000, of which total about $6,000,000

have been acquired at various times by purchase.

So it may be said that of the total property which the Company now owns, or at various times has owned, 4 per cent. has been acquired by purchase, and the other 96 per cent. has been built by the Company and extended into theretofore unserved areas.

The number of these purchases, however, is substantial, 29 systems, either small distribution systems, or in several

cases generating plants, with distribution systems; in some cases transmission lines, such as along interurban lines, or electric railways, have been acquired by purchase.

The nucleus of the system, however, was Cleveland, and the growth was a radial outward growth from Cleveland; as communities surrounding Cleveland began to be more densely populated, as there were demands and requirements for electric service, the system just grew.

Mr. Hamilton: May this document be marked as Respondents' Exhibit No. 23 for identification? 1034

The Examiner: Yes.

(The document referred to was marked Respondents' Exhibit No. 23, for identification.)

By Mr. Hamilton:

Q. Will you explain what Respondents' Exhibit No. 23 for identification portrays? A. This series of three maps shows the relative size of the area served by the Company

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as of three periods. 1035

Q. Now this series of three maps has been prepared under your supervision? A. Yes, it has.

Q. The facts which are the basis of the maps have been taken from the records of the Company? A. Yes, from the Record Department records.

Mr. Hamilton: I offer this exhibit in evidence as Respondents' Exhibit No. 23.

Miss Calkin: No objection.

The Examiner: The three maps may be received as Respondents' Exhibit No. 23.

(Respondents' Exhibit No. 23 was received in evidence.)

By Mr. Hamilton:

Q. Are all three maps, Mr. Lindseth, to the same scale? A. Yes, these three maps are to the same scale, which is about 6 miles to one inch.

The lowermost map, the territory as of 1940, is precisely the area shown on Exhibit 21, the territorial system map
1037 which we discussed earlier in the testimony.

As of 1911, which date was chosen because it represented the point at which the Company changed from a single power plant company to two power plants, transition was from a radial distribution and transmission center with a single plant as the center, to two power plants jointly serving the territory, in which the area served is about 200 to 250 square

miles, or one-eighth of the present territory served.

The middle map shows the territory served as of 1925,
1038 when the company built another of its generating plants, and marks the transition between radial system in these original two power plants, where the transmission and distribution was radially outward, to the point at which the Company began to build a high tension transmission ring surrounding the territory, and began serving customers radially inward as well as radially outward. That area is about 400 square miles, on the order of one-quarter of the present territory served.

The last map, of course, represents the system as it is today.

Q. Have you given your approximation as to the number of square miles in the area shown for 1911? A. Oh, yes; 200 to 250 square miles, about one-seventh to one-eighth of the present territory.

Q. Did the territory shown as served in 1911 comprise the entire Cuyahoga County? A. No, it did not; Cuyahoga County has an area of 450 square miles. The estimated 250 square miles served in 1911 is then something of the order of 55 or 60 per cent. of Cuyahoga County. The facilities of the Company did not extend beyond Cuyahoga County, 1040 but did not cover all of Cuyahoga County.

By 1925, the limits of the Company's facilities had not

—618—

yet extended beyond the county line, but neither, yet, had those facilities covered the entire county. 400 square miles were served in 1925, and the aggregate area of the county was 450 square miles.

Very shortly after 1925, the Company served not only all of Cuyahoga County, but began a process of expansion which, within four years, expanded the Company's territory from that shown as existing as of 1925, to the area below it. That 1041 is, all of the territory served in 1940 was likewise served by the end of 1929.

Now this period of expansion began in accordance with a well-defined and rather well-developed plan for expansion enunciated just before 1925, and was of two important types.

One was this acquisition of ear by purchase; second, was a tremendous expansion of facilities in the territory that had theretofore been unserved.

To go back a little to the character of this territory, Cleveland was the trade center of this entire area. The dol-

lar volume of sales was very substantial. Last year the wholesale trade in Cleveland was $700,000,000; retail sales were $400,000,000; and the people in the territory trade in Cleveland for department store sales, wholesale jobbers, factory branches, and the like; and similarly, Cleveland is a substantial market for the products raised in these counties to the East, the agricultural products finding their market in Cleveland.

—619—

1043 The Cleveland newspapers are circulated throughout the territory, and serve substantial portions of it. It was realized by the Company that this was an economic unit which could best be served by a company, a single company, preferably The Company, the Cleveland Electric Illuminating Company, and so it began in 1925 with its plans for expansion.

Shortly after the North American Company acquired control of the Cleveland Electric Illuminating Company, these plans to extend service were made. As early as 1924, a site was purchased at the extreme Western end of the ter-
1044 ritory for the building of the Avon plant. This site was acquired before that territory was served by the Company.

Similarly, right-of-way was acquired for a high tension transmission line to run to the South and to run over to the West.

Events then followed rather rapidly. It was the middle 20's, and the needs for electric service were extremely great in the territory. The potentialities for business were very marked. The exent to which the territory was served was

negligible, and that service which was there was, by today's standards, of the very poorest class of service.

—620—

Customers were served from either very small, isolated generating plants or, in keeping with the times, customers bought energy from the electric interurban electric railways running through the territory and distributed that energy through systems which they, themselves, had built and they were strictly bailing wire systems.

So that the standard of service was bad, the level of 1046
rates was high and the need for unification of the facilities was very, very marked.

By this process of acquisition of properties the Company in about four years acquired all of this territory, built high tension transmission service lines, built the necessary substations and distribution system and altered the service picture completely.

Q. By this period, "four years," are you referring to 1925 to 1929? A. Yes, I refer to 1925 to 1929.

The nature of these properties acquired may, perhaps, 1047
be shown by statements as to the size of some of these properties.

Mr. Hamilton: Mr. Examiner, would it be appropriate to have a recess at this time?

The Examiner: I think so. We will have a short recess.

(Whereupon, a short recess was taken.)

The Examiner: You may proceed.

—621—

1048 *Elmer L. Lindseth—By Respondents—Direct*

By Mr. Hamilton:

Q. You testified, Mr. Lindseth, that the Company made a number of acquisitions to the electric property during the period you referred to. What was the character of this electric service in these territories so acquired? A. Actually, the Company bought many of these properties during this expansion period of 1925 to 1929 at the specific request of either the consumers served by these properties purchased
1049 or in some cases by the owners of the properties. The period was one when the decline of electric interurban and railroad transportation had already set in.

These interurban lines were in weak financial condition as a result of which the revenue obtained from the sale of electric energy was not even devoted solely to the electrical portions of the business, but was in part bailing out of the transportation phases.

For example, one of the properties purchased, the Cleveland, Painesville & Eastern Railroad had its generating plant at the extreme west end of the system and extended eastward
1050 along an interurban line for fifty miles. All the power customers were served from a single transmission line along that right of way and in the event that that line had to be taken out of commission for maintenance, all customers to the east of the maintenance point were without service until the line was fixed.

—622—

Numerous private small companies built distribution lines down roads and into villages adjacent to that interurban right of way, but the character of their construction was very poor, their personnel was decidedly limited because of

the number of customers and the gross revenue just couldn't justify a maintenance or a service organization.

In almost no case did any of these twenty-five acquired properties have twenty-four hour maintenance service. If a transformer were burnt out, it would be repaired the next day by the construction personnel. In the event a primary line was down, it was not even cut loose; it probably just burned itself clear and they let it be until the next day. This Cleveland, Painesville & Eastern Railroad operating through a subsidiary in its electric business, handled its 1052
trouble work and consumer service work by the regular construction crew, either before they went to the job in the morning, at noon, or after the construction job was finished in the evening.

There was no trouble organization through the night. There was no trouble organization on Saturdays and Sundays. In the event of major storms, substantial lengths of pole line would be blown down because the construction standards were poor and the period required to restore service was necessarily great because the personnel was so decidedly limited. 1053

—623—

In certain cases, it is recorded in the records of the Company that they pressed into service wiring contractors to help them clear up major cases of trouble. It was strictly a low class of service. As a result requests came to the Company because of the knowledge of consumers of the character of service rendered by the Company, there came these requests for the Company to acquire these distribution systems and put them on the Illuminating Company's standard of service basis.

1054 *Elmer L. Lindseth—By Respondents—Direct*

As illustrative of one of these purchases, I think we can talk about the very first one in this series. That occurred in 1925, in October of 1925. The Company acquired the West Claridon Light & Power Company. The number of customers was just a few more than twenty. They were served on a rural highway leading into Chardon and the purchase price for the entire company was $4,095.00.

The next purchase in December of that year, the Middlefield Electric Light Company, was bought for $20,700.00. Ob-
1055 viously the size of the companies and the character of their equipment could not have been of very high caliber for those prices in those days.

One of these plants that was acquired—the Orwell plant—had a small oil engine serving it and after the Company had acquired the plant, but before the property could be taken over, the engine caught fire and burned.

Numerous purchases followed in close sequence. In February of 1926, the company purchased the Burton Public

Service Company serving the Village of Burton at a price of
1056 $12,500. In April, 1926, two months later, the Thompson Light & Power Company serving Madison and Montville townships, for about $15,000.00. This company had nine and a half miles of transmission line, a little over five miles of distribution line, a hundred and five customers, and 55 k. v. a. of transformer capacity. The price paid was about $150.00 per customer.

Shortly after, in the same month, the company acquired the Suburban Utilities Company serving Geneva and Saybrook townships, at a little less than $30,000.00. This property had fourteen miles of transmission line, nine miles of

 1057

distribution line, 350 customers and about 400 k. v. a. transformer capacity.

The company, then, in March of 1926, made a major purchase—the Municipal Light Plant in the City of Conneaut. Conneaut, you recall from the map, is at the extreme northeastern portion of the system, near the Pennsylvania line and on the south shore of Lake Erie. The Municipal Plant in Conneaut served Conneaut City, the township, and North Kingsville Village, for which the company paid $455,000.00 and acquired a generating plant, transmission line and dis- 1058
tribution facilities.

The Conneaut plant, as shown from the inventory, had thirty-one miles of transmission lines, thirty-six miles of distribution lines, thirty-four hundred customers, and 2,700

—625—

k. v. a. of transformer capacity. This was a rather significant purchase and was classed as a major one in the period.

In the fall and winter of that year, 1925, the company purchased the Chardon Plant, the Village of Brecksville, the Village of Independence, the Village of Mayfield—that is, the distribution facilities in these villages—the Village of Rich- 1059
mond Heights, the facilities in the Village of Valley View, and bought the plant of the Chesterland Light & Power Company.

Q. Now, would you indicate the relative importance of those purchases by giving us the maximum purchase price of any of the systems or distribution lines you just referred to? A. The price paid for this series of five purchases ranged from $10,500.00 for the distribution facilities in the Village of Mayfield, to $39,000.00 for the distribution facilities in the Village of Brecksville. These were practically contiguous

1060 *Elmer L. Lindseth—By Respondents—Direct*

suburbs in the Cleveland suburban area, and were areas in which the municipality had built the distribution system while buying energy from the Cleveland Electric Illuminating Company.

There then followed, in 1926, the important purchase of the Cleveland, Painesville & Eastern Railroad Company about which I have discussed the service, together with a subsidiary of it, the United Light & Power Company.

—626—

1061 This was purchased for $1,400,000.00. In addition to the distribution facilities, the company acquired right of way along the railroad for a 33,000 volt line, to serve that territory east of Cleveland in Lake and part of Ashtabula Counties.

The inventory of the United Light & Power Company shows sixty-one miles of transmission line, twenty-seven miles of distribution line, about 2,400 customers, and more than 2,100 k. v. a. of transformer capacity. The parent company, the Cleveland, Painesville & Eastern Railroad Company, had 179 miles of transmission lines, 75 miles of distribution line,

1062 5,000 customers and 4,400 k. v. a. of transformer capacity.

This was a rather substantial purchase and extended the company's territory very quickly far into this eastern territory by having acquired the right of way for transmission line and the customers along the transmission line practically to the eastern extremity of what now is the entire territory served.

Shortly thereafter, the company acquired—and this is in April and May of 1926—the Grand River Electric Light & Power Company property, the East Ohio Power and Light Company property, for $145,000.00 and $36,000.00, respec-

tively. Then followed in the summer of 1926, the Village of —facilities owned by the Village of Jefferson, the facilities or properties of the Lake Erie Power & Light Company, and some customers of another railroad—the Cleveland, Paines-

—627—

ville & Ashtabula Railroad.

Then, in the fall of 1927, the company negotiated for the purchase of the municipal plant in the City of Ashtabula. The company, by this time, had begun to serve practically all of the territory with the exception of the City of 1064 Ashtabula.

Q. Practically all of the territory shown on Exhibit 21, is that what you mean? A. Yes. On Exhibit 21. It should be understood that they served it quite inadequately because the facilities hadn't yet been extended, but it was the sole supplier of energy in the territory.

By July of 1928, after an election of the voters in the City of Ashtabula, the company bought the municipal plant for $2,340,000.00. The company then took over the plant's customers, took over the generating plant, and all of the distribution system. 1065

A few years after, in 19—late in 1930, the company built a very important generating plant in the Ashtabula township and after that plant was built, the former municipal plant was dismantled.

The acquisition of the Ashtabula municipal plant added 6,900 customers, 115 miles of transmission lines, and 11,600 k. v. a. of transformer capacity.

There then followed, in this area, the purchase of a few

—628—

1066 more properties, the Chagrin Valley Electric Company, quite close to Cleveland, and then a second or third interurban line, the Cleveland Southwestern Railway Light & Power Company. The price paid for the latter was $300,000.00.

Q. The last named company you referred to supplied electric service as well, did it A. Yes, it did. It served not only its own operations, but consumers as well.

Now, the company, at the time of these purchases, had been selling energy throughout its territory at a maximum
1067 rate of five cents per kilowatt hour. The company had, prior to that, for a great many years, adhered to the practice of having a single uniform rate structure throughout the territory, and, of course, the immediate effect of the acquisition of these numerous small properties was to immediately put into effect the company's uniform rate schedule, so that in these years, the reduction in rates to these customers transferred to the company's lines was very, very marked.

For example, in the Village of Chardon, consumers had been paying as high as eleven cents per kilowatt hour when
1068 the company took over the Chardon plant. This rate was immediately reduced to five cents. Similarily, the consumers of the Cleveland, Painesville and Ashtabula Railroad Company in Madison and Saybrook, had been paying eleven

cents subject to a discount of two cents for prompt payment. Their rates were reduced to five cents. Customers of the Northeastern Ohio Power and Light Company had been paying 12½ cents per kilowatt hour maximum. They were reduced to five cents.

1069 Consumers of the Grand River Electric Light and Power Company, serving rural communities in Ashtabula County, including Austinburg and Rock Creek, paid thirteen cents per kilowatt hour for the first twenty kilowatt hours. That rate was reduced to five cents.

Similarily, the maximum rate for customers of the Lake Erie Power & Light Company, serving Avon Village and Avon Lake and Bay Village, had been ten cents prior to purchase, was immediately reduced to five cents.

1070 In Burton, the consumers of the Middlefield Electric Light Company, one of the very first companies acquired, had paid seventeen cents per kilowatt hour, up to twenty-five hours, less a five per cent. discount for cash payment.

Now, obviously, under such rates, and with the class of service that had been furnished in this territory, the average use per residential consumer was necessarily low because, first, the price was prohibitive; second, the service was inadequate; and third, generally speaking, there had been no promotion.

1071 Even quite adjacent to Cleveland, in residential suburbs such as served by the Chagrin Valley Electric Company and the Solon Light & Power Company, consumers had paid ten

—630—

cents per kilowatt hour.

In Dover, Fairview and North Olmsted—those are just adjoining suburbs in the City of Cleveland—consumers of the Cleveland Southwestern Railway & Light Company had paid ten cents for the first kilowatt hours purchased.

In Geneva, Madison and Unionville, rural communities rather far removed, they had paid ten cents. At Jefferson,

1072 the rate for the first ten kilowatt hours had been a dollar and a quarter. At Orwell, where the company bought the oil engine plant, the starting rate had been 14 cents for ten kilowatt hours and 11 cents for the next sixty-five.

The Suburban Power Company, the initial rate was 20 cents per kilowatt hour for the first ten kilowatt hours. However, in these adjoining suburbs, where the village had built its own distribution system and bought energy at wholesale from the company, the maximum rate was identical with that
1073 of the company; namely, five cents per kilowatt hour.

This rate prevailed in Brecksville, Independence, Mayfield, Richmond Heights, and Valley View.

Now, immediately on acquisition of these properties, the company rehabilitated the distribution lines, replaced obsolete, overloaded, and inadequate equipment, and linked the territory together with a 33,000 volt transmission line.

Q. Were the reduced rates which the company then had

in effect, made applicable to service in these cities and towns
1074 you have referred to, immediately upon acquisition of the properties? A. Yes, immediately. On the acquisition of title and the transfer of the property and consumers from the former owner to the company, the rates were made immediately applicable, even in advance of the reconstruction of the facilities or the replacement of the obsolete property.

The uniform rates of the company were made effective throughout the territory, automatically, as a matter of fact. Now, in this territory, the response to the improved service rendered by the company, the lowered rates, and the excellent opportunity to improve the extent to which electricity

 1075

was used by the consumers through adequate promotion, the effect of these things was immediately evident.

At the end of 1926, the company had, in these three territories, shown at the extreme right of one of these maps, Exhibit 21, for example, the territory to the right of a point marked in the lake, Willowick—this territory comprises three counties—the number of customers in those three counties at the end of 1926 was about 10,700.

Q. Those are customers of all classes? A. Those are customers of all classes. By the end of 1929, when the acquisition of new territory was complete, the number of customers in this area had reached 19,100. By 1939, ten years later, 1076

without the acquisition of any additional territory, the number of customers had increased to 24,500, which increase was 28 per cent.

Now, during this same ten years, from 1929 to 1939, the residential sales of energy in this territory had increased from 11,000,000 kilowatt hours to 25,000,000 kilowatt hours —an increase of 127 per cent. The average use per residential consumer in the same period and in this territory increased from 577 to 1,021—an increase of 77 per cent. 1077

Q. Your figures are number of kilowatt hours, are they? A. Yes, the figures are numbers of kilowatt hours per residential consumer per year. The latter value—1,021 kilowatt hours per consumer for these three rural counties is in excess of the corresponding average figure for the company as a whole, which value, as of 1939, was 924 kilowatt hours per consumer.

1078 *Elmer L. Lindseth—By Respondents—Direct*

That is, the average use of 25,000 residential consumers in these three rural counties was in excess of the average use per residential consumer throughout the territory.

This is quite the more striking when it is realized that in a city like Ashtabula, during the interval from 1930 to 1940, the population declined about 8 per cent., again due to decentralization of population. During that period the number of customers served by the company in the city of Ashtabula, however, increased 4 per cent., from 6,900 to about 7,200.

1079 —633—

That is, with a decrease in population, the number of customers served was increased, illustrating the making available of service to people in the lower income brackets and people with inadequately wired houses at the beginning of the period.

The total number of company's meters in the eastern division in 1939 was 32,500, of which the number of residential consumers was 24,500.

Q. Here, at the end, Mr. Lindseth, you are speaking of the eastern three counties in the territory? A. Yes, sub-

1080 stantially the eastern three counties. The boundary is a little bit irregular.

Q. Are there geographic factors in the territory served which have encouraged the growth of industry in the territory? A. Yes, generally speaking, my discussion up to this point has related to residential consumers, but it is important to note that this is primarily an industrial territory. Even in these rural communities, the cities like Ashtabula, Conneaut and Fairport are important industrial and manufacturing centers.

1081

Each has important coal and ore docks; each has important factories and not only that, but the conditions in the territory are favorable to the increased industrial expansion within the limits of the company's area served.

Cleveland is primarily a town, the industrial activity of which centers on the metal trades, the making of steel, the

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fabrication of steel and steel products, of brass and other metals, with incidental and associated industries making machine tools and the like. Within a radius of five hundred 1082
miles of Cleveland is this important industrial market, and many of Cleveland's customers for its industrial products are located in such cities as Detroit and Pittsburgh.

Cleveland is a very large manufacturer of automotive parts, for example. As a result of these conditions in the territory favorable to industry, and although the emphasis may be said to be on metals and metal working industries, Cleveland does enjoy a wide diversity of manufacture.

Q. Now, are there other factors, other geographic factors, which encourage the growth of industry? Is the lake, 1083
itself—Lake Erie, itself, a factor in the encouragement of industry? A. Yes, the transportation facilities afforded by Lake Erie have definitely contributed to this industrial development by making available at very low cost, iron ore, which with the availability of suitable coal from western Pennsylvania and West Virginia, has made rather natural the development or iron and steel in this northeastern Ohio territory. The rail facilities are such as to contribute to the development industrially, the proximity to markets

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makes it attractive for industry to locate in this area, centrally located to its markets.

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In the 1937 Census of Manufacturers were listed three hundred and fifty types of industry, of which 220 are represented in the territory of the company.

Cuyahoga County has about 1 per cent. of the nation's population. Yet it produced almost 2 per cent. of the products manufactured in the United States in 1937. The total
1085 value of the products of the manufacturing industries in Cuyahoga County in 1937 was more than a billion dollars, being a billion and seventy-two million thousand—a billion, seventy-two million dollars—and in the City of Cleveland
1 $967,000,000.00.

In Cuyahoga County, the center of the district, there are more than 2,200 manufacturing establishments and, as we noted in connection with population statistics, although this is a very high concentration of industrial activity within Cleveland, there is a well-defined tendency for industry to
1086 decentralize by acquiring sites in industrial and manufacturing suburbs, where land is available, where home sites are available for workers and industry is decentralized through the entire territory.

The diversity is, of course, an advantage to the company in affording opportunities to serve loads in an aggregate load factor beneficial to the company and conducive to reduced costs.

As indicative of this diversity, there may be noted the character of the company's largest consumers. The largest

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customer of the company is the Cleveland Railway Company which is the street railways serving the City of Cleveland, whose demand last year was in excess of 38,000 kilowatts and the kilowatt hours of energy purchased, 124,000,000.

Q. Cleveland Railway Company is a non-affiliate of the company, is that correct? A. Yes. The Cleveland Railway Company is owned by interests quite separate from those owning the Cleveland Electric Illuminating Company. The second largest customer is the American Steel & Wire Company, a steel products and a steel manufacturing company, making wire, rods, bars, sheets, strips, and the like, with a demand in excess of 17,000 kilowatts and energy purchases in excess of 85,000,000. 1088

The third largest customer was the Republic Steel Corporation, making similar steel products, and iron and steel, with a demand of 21,000 and an energy use of about 70,000,000 kilowatt hours.

Then, there follow such companies as the Chase Brass & Copper Company, making brass and copper products; the Cleveland Union Terminals Company, operating the electrified railroad terminals; the Otis Steel Company, making steel and steel products, strips, sheet and plate steel; the Aluminum Company of America; the Fisher Body Company, the City of Cleveland—the Easterly sewage disposal plant is one of the company's very largest customers—the Willard Storage Battery Company; the Industrial Rayon Company; 1089

the Standard Oil Company; the General Electric Company, the wire works; the Republic Steel Corporation, their Upson works; the Ohio Rubber Company; another plant of the

General Electric Company, their Nela Park offices and laboratories, the Thompson Products Company, making automotive and aircraft parts; the White Motor Company, making trucks; a third plant of the General Electric Company, the Incandescent Lamp Bulb Works; and the Eaton Manufacturing Company, making automotive parts.

These are representative of the diversity of industry and a substantial number of these plants that I have mentioned are not within the municipal limits of the City of Cleveland.

1091 Q. Even with this diversity of industry of which you have spoken, is there a similarity of service needs among your industrial consumers? A. Yes, there is. That is, although the products of industries are widely diversified as to character, industry needs dependable electric service with adequate control of voltage and frequency for precise manufacturing operations, prompt restoration of service, and although these industries are diversified, they do require rather uniform standards of service.

The diversity is of distinct advantage to the company in reducing costs by improving load factor which advantages

1092 redound to the customer in the form of improved service at

reduced rates. This uniformity may be seen, for example, from the fact that as far east as Conneaut, the character of Conneaut is not essentially different from the character of Cleveland. It is a lake port with docks as has Cleveland. It has small manufacturing plants as has Cleveland. It has railroad shops as has Cleveland, and the same may be said for such cities as Ashtabula and Fairport.

So that this is a territory which is homogeneous to the point of being throughout industrial minded, with incidental

agriculture, but it is diversified by having a wide variety of industrial and commercial needs.

It enjoys the benefits of diversity, but it enjoys the benefits of uniformity.

I mentioned, for example, the cities of Geneva—excuse me—of Conneaut, Ashtabula and Fairport, but in some of the smaller cities such as Geneva, the population of which is much less than that of the others, there are located such plants as the Geneva Metal Wheel Company, and the American Fork & Hoe Company and the Champion Hardware 1094
Company, whose needs and requirements are identical with enterprises even much larger in the City of Cleveland.

Even in some of these very rural territories, such as, for example, the City of Middlefield down near the lower end of the limits, a town of a very small population, in the middle of strictly a rural community, there is a rather sub-

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stantial manufacturing plant—the Johnson Rubber Company—whose demands for energy last year were almost 2,000,000 kilowatt hours; and not only is industry now in that territory, but industry is definitely moving more and 1095
more into the territory and it is extremely likely that the trend will continue because there are many advantages in the territory.

This territory is uniform as to climate, being quite close to the south short of Lake Erie, and this climate encourages the sale to residential consumers of winter air-conditioning. It is not especially favorable to summer air-conditioning. Cleveland has a——

Q. (Interposing) Why is that? A. The number of days in the year in which air-conditioning is required in Cleve-

land—I am speaking now of summer cooling—is somewhat less than thirty and the economic attractiveness to owners of property in which it is contemplated to install air-conditioning is not such that they can afford to install very substantial amounts for as few as thirty days in the year, so that the summer cooling air-conditioning market is probably rather limited in Cleveland.

In the winter time, however, since Cleveland is in one of the cloud belt areas—one of the two important cloud belt
1097 areas in the country—and sunshine is decidedly limited in the winter time, there are distinct needs for adequate lighting in the community and the use of winter air-conditioning

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in the form of filtering, humidifying and similar needs.

The normal mean temperature in Cleveland is 49 degrees and the mean maximum temperature is 56. These are data from the weather bureau.

In this rural territory to the east and a small portion to the west, the company has 1,300 miles of rural distribution line, 16,000 rural customers, of which 4,600 were rural
1098 farm customers.

In these statistics, rural is defined as the area outside these incorporated municipalities. This rural area is traversed by 2,200 miles of highways over which 1,300 miles of rural distribution line have been built and maintained by the company, representing a coverage of about 60 per cent. Including urban farms, that is farms in incorporated areas, the aggregate number of farm customers served was 7,700 as of December of last year

Based on the company's statistics, the number of potential farm customers, urban and rural, now taking service in

the areas served by the company, is 50 per cent. and the number of potential farm customers, urban and rural, to whom service is available in the territory is 63 per cent.

There we see as a summary of the territory served by the company, a compact area, 1,700 square miles; maximum dimension, one hundred miles; highly industrialized, with about 60 per cent. of the area unincorporated municipalities, defined as rural in which there is a very substantial avail-

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ability of electric service to these rural customers. 1100

Mr. Hamilton: This is a convenient breaking point, Mr. Examiner.

The Examiner: All right.

We will recess for lunch until 2:00 o'clock.

(Whereupon, at 12:15 o'clock p. m., the hearing was recessed until 2:00 o'clock p. m. the same day.)

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AFTERNOON SESSION.

(The hearing was resumed in room 1102 at 2 o'clock p. m.)

The Examiner: Let us resume. You may proceed, Mr. Hamilton.

Whereupon, ELMER L. LINDSETH resumed the stand and testified further as follows:

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Direct Examination by Mr. Hamilton (Continued):

Q. Mr. Lindseth, in order to get a general overall picture of the properties which comprise the electric service properties of the Company, would you give us a brief general description of the electric facilities owned and operated by the company? A. Referring again to the system map, Exhibit 21, the electric facilities for the service of this area aggregate, in book cost, about $140,000,000. These properties consist of a generating system with three power plants, one
1104 as shown in the left center of the map at the point Lake Shore, the symbol "LS"; a second, at the westerly edge of the system marked Avon, symbol "AV"; and a third near the eastern terminus of the transmission system, near the Pennsylvania border, Ashtabula—the power plant is so named and has, as its symbol—"AT". These three generating plants aggregate in capacity 520,000 kilowatts and represent an in-

vestment in excess of $44,000,000. All of them are located on the shore of Lake Erie.

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These three generating plants are interconnected by a 132,000 volt transmission system shown as the heavy diagonal line running southwest from Ashtabula plant around the lower edge of Cleveland and up into the Avon plant.

Q. Now, in order to locate that clearly, would you state whether that line runs through the section marked South Russell? A. Yes, that begins at Ashtabula, the Ashtabula plant, circles the city of Ashtabula, runs diagonally southwestward and just to the northwest of the village of Chardon; proceeds downward through the village of South Russell, 1106
and thence westerly through Avon Lake and Avon. This is the 132,000 volt transmission ring.

Near the center, or the left center of the map, there proceed to Lake Shore plant two lines from the point indicated as "PV", the Pleasant Valley switching station, by two routes, to the two points labelled by their symbols—"KO" and "GT", which are, respectively, Oak Street and Grant, step-down transmission stations.

From these two points into Lake Shore, as shown by the heavy dotted line, there is a 66,000 volt underground system which completes the interconnection between the three power 1107

plants.

The underground system is made necessary by the requirements of a heavily built up urban center where overhead, high voltage transmission lines, are impracticable.

Q. That is in the city of Cleveland proper? A. That is in the city of Cleveland proper.

The point marked "KO" on the map, the Oak Street switching station, is on the city limits borders. This 132,000

volt transmission line comprises 454 circuit miles of steel tower line and the underground portions shown, comprise 20 miles of underground cable.

The switch house at the Lake Shore plant also serves as a bulk load supply center to numerous sub-stations, and the switchhouse at the Avon plant, at the westerly end of the system, likewise serves to feed certain sub-stations shown, one of them right adjacent to the site, with the symbol "LK".

The Lake Shore sub-station, in addition to supplying dis-
1109 tribution sub-stations, also serves some industrial customers directly and some railway customers. There are located in this major transmission system 6 step-down transformer stations, located beginning again at the easterly end of the system, one at a point marked "SN" which is Sanborn; a second one, again at the center of the map in the southeast portion of Cleveland, marked "NF"; and the third and fourth we have discussed, Oak Street and Grant; the fifth, Clinton, on the west side of Cleveland, symbol "CL"; and the sixth shown on the underground system into Lake Shore as "NB",

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1110 Newburgh.

This system then comprises generating plants, transmission lines, and transmission step-down sub-stations, and constitutes the main interconnected generating facilities.

The next step in getting the energy to the customers is a sub-transmission system at lower voltage, to get energy from the interconnected power plant system, with its associated transmission lines, to the sub-stations themselves, and this sub-transmission system consists of 11,000 volt underground cable, and 33,000 volt underground cable and overhead transmission.

The next step in getting the energy then to the consumer is the sub-station system itself, which comprises 53 alternating current distribution substations and four direct current sub-stations. These have an aggregate capacity of 52,000 k. v. a. and have a wide range of capacity from 30,000 kilowatts down to 300 kilowatts.

From the sub-stations there then radiate distribution facilities to the ultimate consumer, consisting of a 2,300 volt and a 4,600 volt alternating current distribution system, 60 cycles, three-phase, and in the densely populated downtown 1112
section of Cleveland, a small area of 1¼ square miles of direct current distribution within the city itself.

There is also served a street lighting system, or a number of such. The company has 99 street lighting customers.

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The aggregate number of street lamps is some 21,000, and these are in turn served from either distribution sub-stations or the distribution system itself.

We see then as physical property the generating plants, connected by a transmission system, with step-down transformer sub-stations, from which, through a sub-transmission 1113
system, the sub-stations themselves are served. From the sub-stations the service is carried to the consumers through the distribution system.

To supplement these electrical properties there are required a substantial amount of general purpose facilities, offices at nine locations, warehouses and storerooms at 16 more, garages at 10 locations, tests and research laboratory, 7 in number, and 4 shops.

Further than this, the physical property includes a substantial amount of transportation and construction equip-

1114 ment, principally used in service, embracing, for example, more than 200 trucks, more than 100 trailers, air-compressors, cranes, diggers and the like. It is this property that I will describe under the electric facilities and the miscellaneous purpose facilities.

Q. All right. Turn now, specifically, to the generating stations? A. I have mentioned the three generating plants, the oldest of which is the Lake Shore plant, originally built in 1911, but the oldest portions of which now surviving were

1115 —647—

first built in 1914.

This plant is at East 70th Street in Cleveland, at the lake front, and now aggregates 180,000 kilowatts of capacity.

The Avon plant, next built, had its first section put into service in 1926. Additions in 1928 and 1929 now make it aggregate 140,000 kilowatts of name plate capacity.

And the newest station, Ashtabula, four units of 50,000 kilowatts capacity each, or a total capacity of 200,000 kilowatts. The machines were installed in 1930, 1931, and 1938.

Q. Do you have any other additional generating capacity

1116 outside of the three plants you specifically named? A. There is one incidental source of energy at a plant in downtown Cleveland, the Canal Road station, which, in the early period of the company's history, was an important generating plant, but which today is primarily a supply point for steam heating, but in which does survive a single direct current generator of 3,750 kilowatts capacity. This capacity has not been included in the system figures which I have listed, primarily because it is an adjunct to the steam heating system and is not regarded as firm capacity for the electric system.

Q. Is it actually operated? A. Oh, yes, it is. When requirements for steam are such that it is economical to run this generator, it is operated. The period of its operation

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is almost entirely confined to the wintertime when the steam can be utilized for the steam heating distribution system.

In a system of this character, the dependable capacity at which the plants can operate is of at least as great importance as the nominal capacity of those plants. The figures which I have given are name plate ratings on these machines, 1118
but in conformity with the practice which has prevailed for some time in the company's system, these machines are rated for operating purposes at their dependable capacity, as revealed by periodic tests, and their dependable capacity exceeds the name plate capacity.

Q. By how much? A. The machines are bought on rather a conservative basis, and the 520 kilowatt of name plate capacity, which I have mentioned, is, for operating purposes, 590,000 kilowatt of dependable capacity; making allowance for the loss of equipment at time of peak load, in an amount
equal to the largest turbine on the system, 60,000 kilowatts 1119
at Ashtabula, based on its dependable capacity, and the further loss of a 30,000 kilowatt machine in Lake Shore plant, the present equipment in the power plants is adequate for a peak load of 500,000 kilowatts—this after providing the necessary spare.

Q. The name plate ratings you have given are of units

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now actually serviceable and available for operation, is that

correct? A. Oh, yes. The oldest of those units was installed in 1914 and was rebuilt in 1929. The capacity mentioned is all definitely available and is all dependable and up-to-date capacity.

Q. It does not include any units which may be under construction or which may be contemplated? A. That is correct. There are planned to be installed in an extension to the Lake Shore plant now being built, a 60,000 name plate rating generator to be installed in the spring of 1941, and a
1121 second similar unit to be installed in the spring of 1942. This addition of 120,000 kilowatts of capacity will make the system capacity as of 1942 total 640,000 kilowatts of name plate rating of equipment.

The peak load experienced to date has been 436,000 kilowatts in the fall of 1939. It is expected that the load to be realized in the fall of 1940 will be of the order of 465,000 to 475,000 kilowatts.

As I have explained, the dependable capacity of the system at the moment is adequate to carry loads of 500,000 kilowatts. So that the system is adequate, not only for the loads
1122 anticipated for the fall of 1940, but it is likely that the system capacity now installed would be adequate for loads to be encountered in the fall of 1941.

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However, capacity additions which I have described will be available definitely by the fall of 1941, at which time the system capacity will be definitely above the 500,000 mark.

Q. What are the factors, Mr. Lindseth, leading to the location, the choice of the actual location of these generating plants, the sites? A. The important raw materials in the

1123

generation of power are coal and condensing water, and with the water sources available in Cleveland, there is no location for a large power plant other than on the shore of Lake Erie.

Rail facilities are important, as are facilities for the storage of coal, and although the Lake Shore plant is within the corporate limits of the city of Cleveland, it is in an industrial area in which is available adequate space for the storage of coal and it is located in close proximity to adequate railroad facilities.

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Similarly, the Avon plant is located for availability of water, proximity of railroad connections, and adequacy of space for storage of coal.

Ashtabula is similarly chosen. There are additional factors having to do with the suitability of the site from a foundation point of view, and the necessities of excavation. The Ashtabula site happened to have been chosen in some substantial measure because of the foundation and excavation conditions. It was at a point where piling, sheeting or other

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expensive foundations would be unnecessary, where the ex- 1125
cavation would be a minimum because of the erosion of the cliff at the shore of the lake, and at a point where railroad connections could be made to the plant from the main line of the New York Central Railroad with a minimum number of highway crossings.

These generating units that we have described have been built, all of them, between 1914 and 1938. The single unit installed in 1914 of 20,000 kilowatt size was later rebuilt to modern steam conditions and is more modern in its characteristics than the date would indicate.

Q. Did you say 1940? A. 1914, I meant to say. That unit is Lake Shore No. 7.

Q. Will you state now the size of the individual units now serviceable at each of these three locations? A. The first of those at the oldest plant would be this unit just described, Lake Shore No. 7.

Two other units in the same station, Nos. 8 and 9, were installed in 1919, and are each of 25,000 kilowatt size.

Two additional units in that plant, installed one in 1921
1127 and one in 1923, are each of 25,000 kilowatt size and are station units Nos. 10 and 11.

Two units, both installed in 1924, known as Nos. 12 and 13, in that station, are each of 30,000 kilowatt size.

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The aggregate of these 7 units then is 180,000 kilowatts at Lake Shore plant.

Avon plant was built in 1925 and 1926. The first two units, Nos. 1 and 2, began operation in the fall of 1926 and each is of 35,000 kilowatt capacity.

Unit No. 3 was installed two years later in 1928, and
1128 unit No. 4 in 1929, and each of the latter two is similar to the first two.

The station then comprises 4—35,000 kilowatt units with the aggregate name plate capacity of 140,000 kilowatts.

Ashtabula plant was built in 1929, and 1930. The two units, Nos. 1 and 2 in the plant, each 50,000 kilowatt name plate capacity, began service in November of 1930.

Unit No. 3 began only a few months later, in February of 1931, and is of similar size.

The last unit was installed in February, 1938, and is a duplicate of the first three in capacity, so that the aggre-

gate capacity of the plant is 200,000 kilowatts on a name plate basis making the aggregate capacity for the system 520,000 kilowatts.

These plants, by virtue of the substantial capacity of the transmission system that I have described, are operated and designed to be operated as a single interconnected system. That is, the spare capacity available in any one plant is

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capacity available not only to that plant itself, but is capacity available to the entire system. 1130

In this way, the spare capacity required in the aggregate for the entire territory is reduced and distinct economies result from a closely interconnected system of this character, with transmission lines of adequate capacity to take care of the outage of the important units and important lines, thus operating as a closely connected system.

At the moment, because capacity at Avon and Ashtabula plants exceeds the needs in the portion of the territory served from step-down stations on the transmission line which, coupled with the fact that the economies at Ashtabula and Avon are better than the economies in the older Lake Shore plant, the usual operation is to transmit substantial amounts of energy north into Lake Shore plant, through the 66,000 volt underground system that I have described. 1131

When, however, these two units now being installed at Lake Shore plant are actually in operation, the picture is to be reversed and the transfer of energy during normal operations is likely to be southward from Lake Shore plant, rather than northward into Lake Shore plant.

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The presence of a high capacity transmission system, interconnecting the power plants, makes possible these reversals of flow of energy for economy at times when an individual power plant, for example, may, by virtue of new capacity, be changed from a low capacity station, or low

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economy station, to one of substantially higher economy.

Similarly, the capacity made available, in Lake Shore plant by virtue of these new plant additions, will be made
1133 available throughout the system from Avon to Ashtabula, again due to this very substantial transmission system.

For example, in 1926, the very year in which the Avon plant was being started, in December of that year, before operation was thoroughly shaken down, needle ice formed in the lake and plugged the screens through which all the water comes into the plant. The plant was shut down and rendered unavailable to the system. Because, however, of the substantial capacity of the transmission system, because of the availability of the generating capacity at Lake Shore plant able to be utilized throughout the system, no customer suffered
1134 an outage because the loss of capacity at Avon was made up immediately at Lake Shore. This was a case of shutdown of an entire station, the last time such a disaster has befallen our system. This was in 1926, and it occurred during the preliminary operating period at Avon plant.

Normally, this system is neither operated nor designed to enable all customers to be served in the event of the loss of an entire generating station. The possibility of the loss of an entire generating station is so remote, the record of performance is so good, that it is not good engineering and

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not good economy to provide adequate capacity to protect against the loss of an entire plant.

The usual provision on our system which has prevailed now for a number of years, as design criterion, is to be able to carry the peak load of the system with the two largest units, not in the same plant, out of commission, either because of emergency outage or routine maintenance outage.

Q. Are there other principles of design which have entered into the construction of this generating system? A. Yes. A system of this class must be designed from principles 1136 backed up by long range thinking. The necessary part of the design of a system serving a territory as industrialized as is this, is the requirement that capacity be planned well in advance of need. Delivery of equipment takes a rather long period. Construction necessary before any equipment can be installed in the way of marine facilities and foundation, railroad sidings and buildings, require rather substantial times; so that it is a fundamental principle in the design of this system that capacity requirements be anticipated far in advance of needs.

For example, the capacity is now already on order, con- 1137 struction is now under way, for a turbine to be installed, not only one in 1941, but a second one to be installed in 1942, to be available for load, roughly two years hence.

So it is a fundamental principle in the design of this

system that those needs be anticipated at least that far in advance and the capacity be so scheduled.

Further, it is necessary in the design and development of a system of this class, that the choice of steam cycles to

1138 be employed be consistent with the type of fuel available, the cost thereof, and the character of the load to be served.

In this area the average load factor at the generating plants is of the order of 50 per cent. In this area for a great many years there has been available coal at what would usually be regarded in the utility business as relatively low cost.

As a result of these two factors, relatively low cost of coal of quite good characteristics, and a load factor of 50
1139 per cent., it is the economical choice of steam pressures and temperatures,—and that choice is practically controlling in the operating expense determination of a generating plant—these factors have made it prudent for this system to design and build relatively low pressure, low temperature plants.

For example, the older Lake Shore plant operates at 250 pounds, 600 to 700 degrees steam temperature. The Avon and Ashtabula plants operate at 375 pounds, 725 degrees steam temperature.

Because of changed conditions, however, partly in the location at which the new capacity is to be installed at Lake
1140 Shore plant in the center of a high load density district,

and partly because the two machines to be installed there are to, for many years, be the best two machines in that load area, the temperature and pressure chosen for the plant addition at Lake Shore, the 1941 extension, is to be 850 steam —850 pounds steam pressure—900 degrees. This choice of temperatures and pressures will make these two units quite the most economical units on the system in the generation of power.

A further principle as to which I have already referred in part, in the location of power plants, is that one having to do with the availability of coal, the proximity to railroads, and the adequacy of cooling water. But further than this principle, since the transmission line joining power plants is a very major element of a system, the choice of a power plant site must be carefully made from the point of view of the availability of transmission line right of way and access to the plant by these high lines.

For that reason plants, the output of which is to be trans- 1142
mitted over high tension transmission lines, are no longer able to be located inside of cities, for example, because of the lack of availability of overhead transmission line right of way.

Further, in the building of this system, the size of units chosen may be said to be moderate. The system now comprises 520,000 kilowatts of installed name plate capacity,

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the largest unit of which is 50,000 kilowatts, or about 10 per cent. of the size of the system.

The two new units being installed are each 60,000 kilo- 1143
watts, and at the completion of the installation of the second one, the system capacity will be 640,000 kilowatts, on which the largest unit will be 60,000 kilowatts, again about 10 per cent. of the aggregate capacity of all power plants.

This principle has for some time controlled in the choice of the size of units, in the Cleveland system.

This choice of units, or unit size, provides a reasonable balance between fixed charges and operating costs, and at the same time reduces to what are regarded as reasonable limits, the amount of spare capacity required to be installed

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or operated on the system as protection against the loss of the largest one or largest two units.

Plant auxiliaries on the system, in the newer plants, are largely electrically driven. In the older plants, they are, in varying amounts, steam and electric driven.

For example, in Lake Shore plant to which there is now being added additions, in the older portion all the boiler feed pumps are steam driven. In the newer portions, however, while there will be installed for each turbine a steam
1145 drive boiler feed pump, this steam drive unit will be used only in the event of major emergency, since there are being installed also for each turbine three electric drive pumps, two of which are adequate to carry full capacity of the

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machines, and the third electric drive being spare to be used in the event of emergency or routine maintenance.

This steam drive pump, as a matter of fact, is expected to be used so little, that the exhaust from that pump is to the atmosphere and is to neither a condenser nor to a heater.

1146 From the electrical point of view, the part the auxiliaries play becomes very important, because the operation of a turbine is not possible without the operation of all of the auxiliary pumps, fans, and other auxiliary equipment made a part of that unit.

As a result, in the design of the auxiliary supply to a station of this class, there is usually available to any auxiliary not only a normal supply of electric energy, but in the event of failure of that normal supply, an automatic provision to throw over the supply to an adjoining panel or feeder. Thus, in the event of loss of a normal supply,

it will still permit the operation of the unit without shutdown.

Further, in the design of this system, switchhouses have been designed as practically integral parts of the plants themselves.

At Avon and Ashtabula, the switchhouses are located within the same building as that which houses the boilers and turbines. At Lake Shore plant there is a separate switchhouse.

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Associated with plants of this class, where the load is supplied primary through a high tension transmission system, there are step-up stations, outdoor switching, transformer yards, and the associated equipment made necessary by supply to a high tension transmission system.

In the electrical design of these switch houses and main circuits, at plants like Avon and Ashtabula, to insure reliability and minimum disturbance to failure of equipment, there is vertical isolation of phases. Further than this, there is substantial protection horizontally, both between adjoining units and between phases of the same units and substan- 1149
tial isolation between different pieces of equipment serving the same unit, such as, for example, an oil switch and its associated disconnecting switch.

Isolation, then, of electrical equipment, is fundamental in the design of these plants.

Similarly in the matter of duplication of bus facilities so that in the event of failure of a single bus, a duplicate bus may be immediately pressed into service to reduce the duration of the outage caused by the necessary maintenance.

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Safe standards, of course, are used throughout. By "safe standards" I refer not only to safe standards for the protection of equipment, but safe standards for the protection of employees, and where the public is likely to be in hazard, safe construction from the point of view of the public.

—661—

In recent plants at Avon and Ashtabula, for example, in their entirety, and Avon is 14 years old, the most modern available equipment for the reduction of atmospheric pollu-
1151 tion is employed. These plants, both of them, are pulverized coal fired, and in their construction all reasonable precautions have been taken to insure reduction to a reasonable minimum of the discharge of objectionable dust to the atmosphere.

—662—

Smoke is no longer a problem in the operation of power plants. Economies of generation are such that smoke is only, under most unusual conditions, present at all.

Q. Do you generate any direct current at all at the three
1152 principal stations? A. Direct current is generated at each of these three stations only as incidental to the generation of alternating current. The control circuits in these plants are all direct current operated. Certain of the auxiliaries, notably those requiring variable speed motors, are direct current operated. Emergency lighting is direct current operated from a battery system. So that, in each of these three main generating plants there is capacity available for direct current generation, but none leaves the generating plant itself.

In the oldest of these plants, the steam heating plant to which I have referred as Canal Road Station, there is a single direct current 3,750 kilowatt machine, which is now operated incidental to the steam heating system, and sends its energy out to the direct current downtown system.

Q. At what frequency is alternating current generated? A. This system throughout is and has been, since its inception, operated at 60 cycles, 3-phase. The generation at Lake Shore plant is at 11,000 volts; generation at Ayon and Ashtabula plants is at 13,000 volts. All the plants burn coal as 1154 fuel.

—663—

Ohio and Western Pennsylvania are important coal-producing centers, and no fuel is competitive for steam generation in the Cleveland area with coal.

At all three of these plants, the coal is burned in pulverized form; at Avon and Ashtabula, exclusively so; but at Lake Shore plant only in part, as such.

There are also installed at the Lake Shore plant stoker-fired boilers in which the coal is burned in solid form on 1155 stokers, the number of which is 32. Turbines are, in all cases, horizontal turbines; with two exceptions all are straight impulse turbines, 17-stage, by-pass governed, running at 1,800 r. p. m.

Boilers in all classes are of bent tube construction, Stirling boilers.

The pulverized coal burning equipment at these three stations is essentially similar at all locations. The central storage system is employed in which the coal is pulverized in a portion of the main plant, transported to bunkers, from

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which it is fed to the boilers at a rate which is wholly independent of the rate at which it is pulverized.

At all three plants, refractory furnaces are used, with air-cooled walls. The boilers in all cases have capacities from 300,00 pounds per hour to 400,000 pounds per hour.

These generating plant facilities, as I have described them, are wholly adequate for present loads, and in no case

—664—

is there any deficiency of boiler capacity below the installed
1157 turbine capacity in the plant, and as I have testified, the present installed capacity is adequate for a load of 500,000 kilowatts, contrasted with which the maximum thus far experienced has been 436,000 kilowatts.

Q. How is that load distributed on the line? A. At the time of its generation?

Q. Yes. A. Well, I don't have data available on the actual generation which took place at each of the plants at the time the peak load was being carried.

Q. At all events, it was distributed among the—— A. (Interposing) But the capacity which was on the line at
1158 the time of this load was distributed in a manner for which I do have the data.

At the time the capacity at the Ashtabula plant was 190,000 kilowatts; the capacity of the Avon plant was 160,000 kilowatts; and the capacity at the Lake Shore plant was 165,000 kilowatts. These aggregate 515,000 kilowatts of capacity, which were on the line at the time that the load was 436,000. The subtraction yields a spare capacity at the time on the line of 79,000 kilowatts. That is, at the time of that peak, the capacity was adequate to handle 79,000

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kilowatts more load than was actually experienced, or, 79,000 kilowatts of the capacity on the line could be lost from service without impairing the ability to carry the peak load.

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The generation is likely to have been approximately in the ratio of the capacities on the line, about one-third at each of the three generating plants.

Similarly, however, the loads distributed from Lake Shore plant was probably substantially in excess of the load generated at the Lake Shore plant, and energy being generated at 1160
Avon and Ashtabula was, without question, coming in over the transmission line, being fed into Lake Shore power plant, from which it was sent out over the sub-transmission system to distribution sub-stations.

The allocation of load between generating plants is a problem of considerable magnitude and is, in large measure, controlling in the resulting economies realized in the generation of power, and I should like at a later time to go into, in some detail, the principles employed in the allocation of energy between generating plants to carry a given load or a peak load. 1161

Q. Is your present capacity adequate to take care of the normal load growth during the next year? A. Well, normal load growth in the next year or two is a very difficult thing to forecast, with defense activities being what they are. As a result of engineering studies which have been made by the engineers of our Company, it has been decided that it will be economical and prudent to increase our capacity by 60,000 kilowatts in 1941, and by 60,000 kilowatts in

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1942, even though the presently installed capacity appears adequate, in the face of normal load increase, to carry the

1941 load. There are many factors which contribute to engineering decisions of this character, the availability of equipment, the availability of capital, the potential economies which may be realized from high efficiency equipment installed even in advance of its need for carrying load; and it may be said that although the existing equipment is adequate to carry those loads reasonably to be expected, even in the fall of 1941, that capacity is being installed in excess of that estimated by the Company.

1163 Q. Will you refer now to Exhibit No. 21, and describe the transmission lines connecting the generating stations, to which you have already referred? A. I have referred a number of times to the essential importance of this transmission system, interconnecting these power plants, not only from the point of view of availability of power supply to all portions of the system, but similarly, for economy of operation and economy of fixed capital investment.

This line throughout, from Ashtabula to Avon, is steel tower, double-circuit construction, with two such steel tower lines paralleling each other on a single right-of-way, joining

1164 Avon and Ashtabula with four circuits.

Q. That gives you a total of two circuits? A. Two cir-

cuits on each tower line, two such tower lines, making a total of four circuits joining the plants.

Q. All right. A. In this transmission system are located six bulk power supply centers or transformer step-down stations, from which sub-transmission carries the energy from the inter-connected power system to the sub-stations. This 132,000-volt system comprises slightly over 450 circuit miles of this line and makes a type of system in which Cleveland,

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the high density load area, is circumscribed by a ring from which there is fed radially inward, at six points now, and soon to be seven, the main supply of energy.

Years ago, when systems were small, and specifically in Cleveland when the system was substantially the Lake Shore power plant, the supply of energy was radially outward from one power plant. Today it is radially inward from a closely interconnected ring into which the energy is fed, and from which the energy is carried into the load centers through radially inward lines.

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From this point in the lower left center portion of the map, designated as PV, known as Pleasant Valley sub-station or switching station of the Company, two lines, each of double-circuit steel tower construction, are built Northward into the Cleveland area. One terminates in the transmission sub-station indicated as GT and known as Grant; and the second one adjacent to it, Oak Street.

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Q. What is the voltage of those two lines? A. Those lines likewise are 132,000 kilowatts.

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Q. 132,000 volts, you mean? A. Excuse me, yes, 132,000 volts.

The construction of the line from Grant sub-station North to Newburgh is 66,000 volt, 3-conductor, oil filled cable, the first of its kind used in this country.

The lines from Newburgh North into Lake Shore are double-circuit, 66,000 volt construction, single-conductor, 500,000 circular mil, compound filled cable, which, when they were installed in 1924, were likewise the first of their type

used in this country for transmission of energy in any substantial amount.

From this point, designated as Pleasant Valley switching station, the line which goes Southward to the edge of the Company's territory, is a single-circuit, steel tower line to the Ohio Edison Company, through their South Akron substation, forming an interconnection between the Company and the Ohio Edison Company.

Similarly, to the West, at the point designated LR, and
1169 known as Lorain switching station, a line extends to the Westward, to South Lorain, and is an interconnection, now unused, with the Ohio Public Service Company.

Q. And what is the voltage of that line? A. Each of these lines is 132,000 volts, single-circuit, steel tower construction.

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From the point designated FW, and known as Fowles switching station, on the line between Avon and Pleasant Valley, there extend Northerly, into the West side of Cleveland, a double tower line with four circuits of similar 132,000
1170 volt construction.

Proceeding then to the extreme East end of the system, and Southwest of Ashtabula, the point designated SN on the map and known as Sanborn switching station, or better as Sanborn transmission step-down station, there is transformer capacity installed to supply sub-transmission at 33,000 volts.

The next point at which energy is taken off the transmission system is down in the Southeast portion of the territory at a point designated NF at about the lower edge of the Company's territory, and in the center of the map, and known

as Northfield transmission step-down station, and where, similar to Sanborn, energy is transformed from 132,000 volts to 33,000 volts for the supply of a sub-transmission system to feed distribution sub-stations.

It will be noted that with the exception of the station designated Clinton in the City of Cleveland, in the West side, all of these transmission line transformer step-down stations may be fed from either of two directions. For example, the sub-station designated Northfield, in about the center of the transmission system—— 1172

Q. (Interposing) Excuse me, in referring to these sub-

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stations, would you mind referring to them by the letter designation? A. Yes, excuse me. This station to which I have referred as Northfield bears the symbol "NF", and it may be seen that that sub-station may be supplied with energy either from the West or from the East. Similarly, Sanborn, on the main ring, may likewise receive energy from either of two directions.

Q. And the letter designation of that sub-station? A. Is SN. 1173

Likewise, Grant, designated as GT, Oak Street, designated as KO, and Newburgh, designated as NB, may be energized from either direction.

Capacity is not, in all cases, adequate so that the complete loss of a transmission line on one side of a sub-station will still permit the complete operation of that sub-station, but energy can be, in part at least, supplied to that sub-station from these two directions.

The design of this system throughout is such that full capacity can be carried with the outage of one of the existing

1174 circuits. That is, the full output of Ashtabula plant may be transmitted Westward on the system, with but three of the existing four lines in service.

Similarly, from Avon plant Eastward, the full capacity of the plant may be carried with a single line out for either routine maintenance or emergency outage.

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Q. You have explained the heavy black line which, in effect, encircles a major portion of the territory, and that is
1175 the 132,000-volt line. There appear at a number of points black lines slightly less in width. Will you explain the significance of those lines; in other words, for example, the line running from Avon, lettered AV, on the Western extremity, to the sub-station lettered KB. At what voltage is that line? A. That line shown as a solid line of intermediate weight, is a 33,000-volt overhead construction line. The line of similar weight which runs Northward from Northfield station, designated NF in the center of the ring, shown as a dotted line, is a corresponding voltage line of underground construction. These are part of the sub-transmission
1176 system rather than the main transmission system, the distinction being that the sub-transmission system conveys energy from this main backbone system to the distribution substations.

This ring which I have referred to as result of this evolution from a single plant system from which the feed is radially outward, to a multiple plant system from which the feed is radially inward, is result of some 30 years or more of growth, 35 years of growth, in the transmission and sub-transmission of the system.

The first plant of the company, Canal Road plant, served all of its customers directly from the power plant. There were no sub-stations, there was no transmission, there was no sub-transmission. This situation prevailed in Cleveland

—672—

until 1905, when the first sub-station was built at a point substantially removed from the power plant, some 5 miles, and to which energy was transmitted with 11,00-volt underground cables, and from which, then, the distribution lines radiated. 1178

This marked the beginning of transmission on the system. The development from then on was rather rapid. The number of customers and the amount of load acquired grew very quickly, and in 1911 the Lake Shore plant was built, from which the sub-transmission of energy was again radially from the power plant. There is associated with the electro-generating plant a switch house with a substantial number of 11,000-volt circuits in it, more than 120, and during that period of growth of the Lake Shore plant, from 1911 to 1924, all of the system load was able to be handled by the addition of more and more 11,000-volt cables, feeding radially 1179 out of the power plant.

Then came the transition from a radial system to a ring system, and in 1923 a contract was entered into with the Ohio Edison Company for the sale of a substantial block of energy, 15,000 kilowatts, at the Cuyahoga County line, at the terminus of the line which we have designated from Pleasant Valley, indicated as PV, and going Southward.

To supply this load, there was then developed, first, the 66,000-volt underground system from Lake Shore through Newburgh, with the symbol NB, to Oak Street, symbol KO,

and thence Southward to Pleasant Valley and Akron, and

—673—

because, for engineering reasons, transformers of this character, namely, from 66,000 to 132,000 volts, required tertiary windings, this tertiary voltage in that initial transformation was chosen at 11,000 volts, and additional sub-stations were and still are supplied from Oak Street transformer step-down station.

In this evolution period from 11,000 volts to 132,000 volts,
1181 there were intermediate periods where lines were operated at 22,000 volts, and in 1924, at about the time when the first 132,000-volt construction was being made, there were then existent 50 miles of 22,000-volt line supplying four sub-stations.

With the increase in load, however, and because of the inadequacy of 22,000 volts to carry the necessary loads, this standard was abandoned and sub-transmission is now at but two standard voltages, 11,000 volts and 33,000 volts, and today, this 33,000-volt system now embraces more than 300 circuit miles of pole line.

1182 Shortly after the construction of this line Southward from the Lake Shore plant to the interconnection with Akron, a contract was likewise entered into with the Ohio Public Service Company, to the West, and the 132,000-volt system was extended Westward to the point designated as Lorain switching station, symbol LR, and the tap Westward. Actually, the Lorain switching station was not built until shortly after, when the Ayon plant was built, but the line was definitely constructed.

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By Mr. Hamilton:

Q. You have testified that that line is no longer in use at this time? A. Yes, as I have mentioned, this interconnection is available for use but is at the moment unused. The reconnection of the line would require about twenty minutes of work.

All of this system is designed for independent operation of the circuits. That is, these circuits are not parallel on the high voltage side, but rather are parallel on the low voltage side. As a result, a short circuit in the 132 kv. 1184
system results in a much reduced fault current, due to the fact that series impedance of the step-up transformers, themselves, is interposed between the point at which the fault occurs and the point of supply, whether it be power plant or additional supply from the 132 kv. system.

Construction is all of 4/0 copper. The ground wires, which are used on all steel tower circuits, are one-half inch copper weld. Standard span lengths are seven hundred feet between towers. Parallel tower lines on single right of way are spaced at a minimum distance of sixty feet to protect 1185
against flash-over in the event of serious side sway of conductors due to high wind or other disturbance.

The system is designed and the conductors are so drawn up that the design tension of 4,500 pounds per square inch will be realized when the conductors are loaded with a half

inch of ice at zero degrees Fahrenheit with the wind intensity such that the loading is eight pounds.

Under these conditions, the factor of safety of the conductors, themselves, is two. The ground wires are similarly

sagged, but because of the superior strength of the wires, the corresponding factor of safety under similar loading conditions is of the order of four. Insulation throughout with normal suspension strings is ten insulators, ten inch discs on five inch centers, and on strain towers the number of insulators is twelve instead of ten.

Q. What are "strain towers"? A. In the carrying of 132,000 volt circuits, if the towers be in a straight line, the load on the tower is only to hold the weight of the conductor
1187 up and the insulator is termed a suspension string. Its job is to hold the wire up. In the event that line, however, turns a corner, a strain—a sidewise strain is imposed on the tower and the insulators are then termed "strain strings" and are likely no longer to be only holding the conductor vertically upward, but are likely to be displaced at an angle from the tower so that the conductor will enter from one direction and leave at a second.

The insulator is termed a strain string and the tower is termed a strain tower. In accordance with administrative order No. 72 of the Public Utilities Commission of Ohio,
1188 —676—
the number of insulators is increased from ten to twelve. These 66,000 volt underground circuits carrying energy from this transmission system are run in separate subway from all other circuits and this subway carries no other circuits other than relay and control circuits additional to the main conductors.

The subway is buried at greater depth than the normal subway to minimize temperature variation in the ground and these circuits are either 500,000 circular mils solid cable,

the older design, or 400,000 circular mils three conductor oil filled cable of the new design.

The aggregate capacity of these transformer step-down stations is 470,000 k. v. a. at these six points I have described, as against the 520,000 kw. of generating plant capacity. This capacity of the transmission sub-stations, which I have given, is the normal self-cooled rating which is increased to 520,000 k. v. a. with airblast.

The smallest of these stations is Sanborn, with capacity 30,000 k. v. a. 1190

Q. Could you locate that on the map, please? A. Sanborn, again, at the easterly end of the system and designated as SN, serving a low-load density area; it is the smallest of transformer step-down stations. The largest of them is on the west side of Cleveland, known as Clinton Sub-Station and designated CL, just below the caption "Cleveland and

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Suburbs." It has a capacity of 144,000 k. v. a., self-cooled, 192,000 k. v. a. with airblast. The average capacity is 80,000 k. v. a. and the number of circuit breakers required for this system is fifty-eight. 1191

Just as the power plants, themselves, are of adequate capacity for the handling of loads, now experienced or expected to be experienced, the capacity of the transmission system and the transformer step-down stations is, with a minor exception, likewise adequate for present loads. The single exception to which I have referred is that at Oak Step-Down Station with symbol KO in the center of the map, joining 132 kv. system with the 66 kv. system and which last year carried a maximum load in an amount equal to 115 per cent. of the nominal capacity of the equipment. This is,

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however, a temporary condition which will be relieved by the installation of the new units at Lake Shore Plant and must not be regarded as a condition which would be permitted to continue for any substantial period.

The average relationship between the maximum load experienced last year and the designed capacity is at Clinton sub-station, 65 per cent.; Grant, 75 per cent.; Newburgh, 70 per cent.; Northfield, 74 per cent.; and Sanborn, 70 per cent.

As I have mentioned, Oak Street, however, carried a load
1193 equal in amount to 115 per cent. of its nameplate capacity.

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Q. How do you determine the adequacy of these stations for future load? A. The adequacy not only of a station but of a line of a transformer, of a subway, a power plant, is a matter of constant engineering check in order that requirements may be anticipated sufficiently far in advance of their being experienced, to afford opportunity to install the equipment in orderly fashion.

The engineering department keeps constant check on the loads carried in all portions of the system and curves are kept
1194 on which are indicated the actual loads being experienced and the maximum capacity of the particular facility, whether it be line or transformer or sub-station.

When it becomes apparent that the increased load will in reasonable time reach the capacity of the plant, then there is installed either additional capacity at that point to provide for the expected increased load or the load on the existing unit of equipment, line or plant is so reduced by transfer to another source that the equipment will not be overloaded at a point in the near future.

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This is a matter of continuous engineering check and is the only plan which makes possible the continued and orderly development of a system without developing serious overloads and inadequacies.

Further than this, it became apparent, because of the

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rapid industrial growth in the territory immediately to the east of Cleveland, and which I mentioned in some detail this morning in describing the territory, that the present transmission facilities to the portion of the map in the northeastern portion of Cleveland would, in the next few years, be inadequate.

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Therefore, there is in progress of engineering design now, a new transformer step-down sub-station to be located in the main transmission line between the village designated South Russell and Chardon, the transmission lines from which will run northwestward at 132,000 volts into Cleveland for the supply of this industrial area, and the relief of those lines now shown going northward from Northfield designated on the map as NF, and running up to the present East Cleveland Sub-Station designated EC.

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This line now expected to be built, is an outgrowth of long-range engineering study of the character to which I referred where it became apparent that in the next few years the capacity of existing facilities would be over-taxed.

Q. The proposed line, of course, is not shown on the map? A. The proposed line is not indicated on the map. The map indicates the facilities of the Company as of July 1, 1940.

The Examiner: Let us have a recess of five minutes.

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(Whereupon, a short recess was taken.)

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By Mr. Hamilton:

Q. You referred to the 66 kv. underground system in Cleveland. Will you describe that system for us? A. The development of this system was a significant contribution to the art by the Company in 1923 and '24, when the installations were made.

Prior to that time there had been some 33,000 volt, three
1199 conductor cables in operation in some of the larger systems of the country but operating difficulties had made it necessary to reduce their operating voltage to 27,000 volts.

It was decided that since the amount of energy to be transmitted was rather substantial and the distance rather great, that higher voltage would definitely be required, and 66,000 volts was chosen; but because of the newness of the design, the joints to connect the cable having theretofore not been developed were required to be developed by the Company.

Later, in 1937, when the capacity of this system was
1200 added to, 66,000 volts was again chosen, but three-conductor oil-filled cable was used and there again, although cable of that voltage and type had previously been used in short unjoined lengths, the cable joint required to be used had not theretofore been in common usage, so that this section of transmission line was largely developed by cooperation between engineers of the Company and those of the manufacturer.

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This, I think, substantially describes that transmission system.

Q. You have no 132,000 volt transmission lines in the City proper? A. There are no 132,000 volt transmission lines in the City of Cleveland either overhead or underground.

Q. Will you now describe the sub-transmission system of the Company? A. The third step in the transmission of energy between the power plants and the consumer is the sub-transmission system carrying energy from the main transmission system to the distribution sub-stations.

This sub-transmission system, in the case of the Cleveland Electric Illuminating Company, comprises 485 miles of 1202
11,000 volt cable, 76 miles of 33,000 volt cable, and 378 circuit miles of 33,000 volt overhead lines.

In general, underground construction is confined to urban densely populated areas, overhead construction is possible in less densely populated and rural areas, and in certain cases, over private right of way, in rather densely built-up areas.

This sub-transmission system is a substantial portion of the company's property and aggregates in first cost $19,000,000.

Referring again to the map, the portion of the system designated as "Cleveland and Cuyahoga County", in general 1203

is the area in which 11,000 volts sub-transmission is employed. In this area are five points at which energy leaves the main generating and transmission system and these are—referring to the center of the map—Lake Shore Plant, symbol LS; south the Newburgh transformer station, symbol NB; Oak Street Sub-Station, symbol KO; to the left the Grant Sub-Station, symbol GT; and Clinton, symbol CL.

From these twenty-two distribution sub-stations in Cleveland and the immediate vicinity are served by 142 under-

ground circuits of two types or sizes; namely, 4/0 and 600,000 circular mils.

Since the voltage adopted in 1905 is still the standard sub-transmission voltage in the City of Cleveland, subway and cable which might otherwise have been rendered no longer useful by the transition in system design from the radial outward system to the ring system, feeding radially inward may be used. There have been substantial economies in re-using the cable rendered just temporarily idle
1205 by the change.

The supply from Grant Step-Down Station, symbol GT, is primarily to only two customers, both of them steel mills, the American Steel & Wire Company and the Republic Steel Company, to whom energy is supplied directly at 11,000 volts. From the transmission sub-station designated as Northfield, symbol NF, there are supplied five sub-stations through underground cables at 33,000 volts.

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These are the sub-stations in Cleveland and its immediate environs. Thirty other sub-stations are fed by overhead
1206 sub-transmission circuits at 33,000 volts, twenty-four of them in the three counties to the east of Cleveland, and six of them in the portion of the system to the west and southwest of the City of Cleveland.

Three of these sub-stations are fed directly from Avon Plant from the line to which I referred running through Lake Sub-station, symbol LK; through Bradley, symbol BR; and Knickerbocker, symbol KB, along the shore of Lake Erie.

Again, reliability has been a controlling factor in the design of this sub-transmission system and although it is obvious that the reliability of service in an area with overhead sub-transmission can not be as great as in areas served

from underground construction, still the density of load and the requirements of service are such as to make it entirely feasible, and the resulting service entirely adequate in those areas served from 33,000 volt overhead construction. All sub-stations which are served from underground cables are able to maintain their peak load even after the outage of one circuit in the supply system.

In most cases, overhead spare capacity is likewise provided in the supply of sub-stations at 33,000 volts overhead and again the loss of one circuit does not result in outage 1208
of the sub-station, and just as the main transmission system

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was closely interconnected for operation, as a single unified system, so the sub-transmission system is similarly closely interconnected for operation as a single unified system.

In general, these sub-transmission feeders supplying a given sub-station are operated in parallel, both at the sending and the receiving points. To protect the sub-station supply, however, these feeders are usually connected to different buses or bus sections at the sending end and to sectionalized bus at the receiving end. 1209

Cable loading is conservative. These 4/0 cables at 11,000 volts, which predominate in the Cleveland area, are loaded to 160 amperes in summer time, 175 amperes in the winter time. 600,000 circular mils cables are similarly loaded to 300 and 325 amperes. This conservative loading makes for safe operation and insures long life under normal operation.

Under emergency conditions, these normal ratings provide a rather adequate reserve capacity and ability to carry a normal load without failure or severe damage. The load

that a cable circuit may carry is in general limited by the temperature to which the conductors will rise, and in areas of extreme concentration of subway and cables, artificial means are sometimes required to cool the cables and the surrounding subway and ground through which the cables run.

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1211 In the proximity of the Lake Shore Plant, as shown in Cleveland and designated by the symbol LS, there are, in a rather concentrated area, 79 sub-transmission feeders running quite close to each other. The amount of heat evolved is substantial and to meet this condition a ventilating system is installed in the subway comprising seven exhaust fans.

Running north from Northfield Sub-Station, designated as NF on the map, to which I have referred as the 33,000 volt underground system, there is 76 miles of three conductor 350,000 circular mil, paper insulated, lead covered cable, rated 37,000 volts, for sub-station supply, and in addition, twelve miles of similar cable for industrial plant supply.

1212 The 33,000 volt overhead system, which I have described, comprises 251 miles of pole line made up just about one-half of single circuit line and one-half of two circuit line. Because we haven't specifically located that, we might trace its path, in order to reveal the extent to which the territory is covered, and commencing with Sanborn Sub-Station, designated as SN, in the main transmission system, just below Ashtabula, there is seen to be a line running almost due east joining a line running north and south from Pierpont Sub-Station designated as PR, vertically north into Conneaut.

This line then comes back westward, parallel with the shore of the lake through Kingsville Sub-Station designated KV, and then circles around the outer and lower limits of Ashtabula, through sub-station SB, known as Saybrook, through

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Geneva, through the town of Madison, supplying Eagle Sub-station designated EG, westward to Painesville, supplying Erie Sub-Station designated ER, and from which there is a tap north to Fairport and supplying Fairport Sub-Station designated FP, continuing southwesterly to Mentor, supply- 1214
ing Mentor Sub-Station designated MT, thence in the same direction to Willoughby, supplying sub-station Glenn and designated GL and into East Cleveland, symbol EC.

This loop then moves out from East Cleveland in a southeasterly direction to a sub-station designated MW and known as Maywood, and for that short distance from East Cleveland to Maywood, the circuit is at 11,000 volts.

Q. Underground? A. Underground. At Maywood—excuse me. In the short portion indicated, there is a solid line just to the West of Maywood—that 11,000 volt circuit does become 1215
11,000 volts overhead construction. The 33,000 volt system then proceeds due east through Gatesmills Sub-Station, designated GM, south of Chardon to Orwell and up to Rock Creek and Jefferson and back into Sanborn with taps southward to supply Burton and Middlefield, and at about South Russell a line is seen to run south to a sub-station designated AB and known as Auburn.

In the southwest part of the system supplied from Clinton Step-Down Station, designated as CL and located just under the caption "Cleveland and Suburbs", a similar 33,000 volt

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line supplies three sub-stations designated RD and known as Ridge, supplying Bagley, with symbol BL, and a third one southeast from Bagley designated RL and known as Royalton.

This, then, is the 33,000 volt sub-transmission system and is seen to be closely interconnected and complete in its coverage of the entire territory.

The system is now quite adequate for loads presently imposed on it as is in fact all of the sub-transmission system. The general principle employed for the checking of capacity
1217 which I described in connection with the main transmission system is similarly used in the case of the sub-transmission system and as of 1939, even heavily loaded sub-stations were in no case loaded above their nominal design rating at maximum load.

Sub-stations of the class of Lakewood, which is a 1925 design and has a nominal capacity of cables feeding it of 28,800, in nine 11,000 volt circuits, which I have described, was loaded at peak to 92 per cent. of the capacity of these cables and, of a substantial number of sub-stations which I have on the table, Lakewood is the highest loaded of the
1218 group.

The 33,000 volt cables from Northfield are of such capacity that the entire load may be carried with one cable out of service, and three of these cables are tapped for the supply of other sub-stations en route. The aggregate loads on the five cables undiversified, is, as of 1939, about 63,000 kilo-

—688—

watts, which loading is about 86 per cent. of the five cable groups' normal capacity.

This 33,000 volt ring sub-transmission system, which I described in the eastern portion of the company's system, is

usually not operated as a closed ring, but is sectionalized and energized from either half. That is, energy is supplied to the eastern portion of the ring through Sanborn Sub-Station and energy is supplied to the western portion of the ring through East Cleveland and Northfield Sub-Stations.

The total circuit capacity from Sanborn alone is of the order of 60,000 k. v. a., which, when increased by the capacity of the Bedford and the East Cleveland lines, becomes more than 80,000 k. v. a., and the aggregate load from this system is of the order of 30,000 k. v. a. 1220

The sub-transmission system is likewise being added to in the plans for the near future. One sub-station was installed just in the early part of this year and is adjacent to downtown Cleveland—Payne Sub-Station—and designated symbol PA on the map, for the carrying of alternating current load in the downtown district normally supplied by direct current. This sub-station will relieve two others and required additions in sub-transmission. Additional sub-transmission facilities are being provided for Willson Sub-Station, Doan, Lakewood, and Warner.

—689— 1221

The purpose of this sub-transmission system as described is to convey the energy from the main transmission system to the distribution sub-stations. These are fifty-seven in number, fifty-three of them being alternating current sub-stations and four of them direct current sub-stations.

The aggregate capacity of these is 520,000 kilowatts. The range is in size is from 30,000 down to 300 kilowatts, and the aggregate investment represented is in excess of ten million dollars.

1222 *Elmer L. Lindseth—By Respondents—Direct*

Q. In the sub-stations, themselves, is that right? A. The investment of ten million dollars represents investment in land and structures and in equipment. As was common practice in the days when the electric facilities were first being extended downtown Cleveland, direct current was used. This system has continued and is still an important part of the downtown electric facilities in Cleveland.

Over an area of about one and a quarter square miles, service is primarily direct current supplied through four
1223 sub-stations, which are in the center of the City of Cleveland, immediately below the designation Lake Shore and are shown by the symbols PS for Public Square and CN for Canal, BV for Bolivar, and DG for Dodge.

The A. C. or alternating current distribution sub-station systems range from Conneaut, supplied through an alternating current sub-station known as Jackson and designated JS

—690—

on the map, to the extreme western portion of the system to Lake Sub-Station designated LK, adjacent to the Avon Plant. The distance between these two points is somewhat over
1224 ninety miles.

One-half of the alternating current distribution sub-stations are located within the area comprising Greater Cleveland. The others are widely scattered and are largely covered in the testimony in connection with the circuit followed by the 33 kv. sub-transmission system which I have described.

Of these distribution sub-stations, a wide variety of types is required, since some of them are primarily residential, others are primarily industrial, some house street-lighting equipment, some serve customers at sub-transmission voltage,

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some serve street railway sub-stations, some are at 33,000 volts, some are at 11,000 volts.

Supply to distribution sub-stations is in all cases received through the sub-transmission system at either 11,000 or 33,000 volts. Of the fifty-three alternating current sub-stations, eighteen receive their supply at 11,000 volts, one is supplied at 13,000—and that by the way is an exception to a previous statement that I made—and thirty-five receive their supply at 33,000 volts from the transmission step-down stations.

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This wide variety in service conditions is a condition prevailing as of the present, but in the course of the thirty-

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five years during which distribution sub-stations have been employed, there have been, of course, substantial developments in type and design so that the types of sub-stations represented are six and these range from attended sub-stations where men are in attendance, either one or two persons per shift throughout twenty-four hours of the day, to completely automatic sub-stations in residential and outlying areas, where no persons are required in attendance, but where inspectors get the necessary data and make inspections of equipment on routine visits.

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These alternating current distribution sub-stations are within the types standardized in design and arranged to permit feeders of a given type or class to be interconnected for reliability between adjoining sub-stations. That is, just as the main and sub-transmission systems were designed and are operated as a single interconnected system, so the distribution sub-stations are so located, are so designed and so

operated, as to realize the maximum benefits from this close interconnection.

As a matter of fact, in the event of outage of a feeder supplied from a given sub-station, in many cases emergency supply for that feeder may be obtained from an adjoining sub-station through a cross-tie or an emergency tie. This is only possible when the system has been carefully designed for interconnected operations as a single unified whole.

—692—

1229 Again, as was the case in the main transmission system and the sub-transmission system, the capacities of distribution sub-stations are adequate for loads now experienced or those immediately in prospect.

To the extent that capacity additions are suggested by the engineering studies from which are projected expected future loads in the next year or two, when such additions are suggested, they are built well in advance of need. Sub-stations are not inherently limited as to capacity, but from practical reasons are usually limited in size, and it is the policy of the Company to provide relief for sub-stations be-

1230 fore they actually reach their full load capacity.

In every sub-station there are switchboard panels provided for increase in service. Sub-stations are usually built in sections and nine of the existing distribution sub-stations have been built to two sections, two have a single section—and I am referring now to the attended type of sub-stations of which there are eleven in toto, and, while it is not advisable or may not prove advisable to extend these to three sections in all cases, there is land duct space and provision in the design for such an extension.

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The sub-stations distribute energy to the consumers at three voltages: 2,300 volts, 4,600 volts, and 11,000 volts, and although certain customers are served at 33,000 volts, in general they are served from the sub-transmission system.

—693—

This then concludes the discussion of the sub-station system.

Q. When you say that the customer takes current at these three voltages, you don't mean that it actually goes into the customer's premises at those voltages, except, perhaps, in the case of industrial? Isn't it actually stepped down to a lower voltage before it goes into a residential consumer's premises? A. That is definitely true in the case of residential and the smaller commercial customers. Of the 330,000 customers served, the number who would receive energy at a voltage as high as 2,300, woud be definitely less than 2,000 or of the order of one-half of one per cent. of the customers.

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Q. So that, after the energy leaves the distribution sub-station and before it gets into the customer's premises, the voltage is further reduced? A. That is correct. It is these facilities between the distribution sub-station and the consumer, himself, which are described as the distribution system. The distribution system represents a rather substantial investment, $57,000,000 of property in the service of these 330,000 customers.

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Of the 330,000 customers, about 1,750 are supplied with direct current, the rest with alternating current. The alternating current is in all cases sixty cycles. It is supplied from primary feeders which are in all cases three-wire pri-

—694—

1234 mary, three phase current, although in the case of the vast majority of customers, the service is single phase. The distribution for direct current customers is substantially all underground construction, a three-wire Edison network with voltage standards 115 to 230 volts, and the number of such feeder circuits is 216.

Also supplied from this distribution sub-station system are more than 20,000 street lights, which are served either from series circuits which feed out of the distribution sub-
1235 station or from circuits supplied from pole type regulators.

The alternating current system for consumers at 2,300 and 4,600 volts comprises two classes of feeders: Light feeders and power feeders. Lighting feeders, in general, as the name suggests, are for lighting load and small motor loads. Lighting feeders are, in all cases, regulated. That is, the voltage control is rather close.

Power feeders, as the name suggests are generally designed for carrying of power loads, voltage control is not so precise, although many are regulated.

In industrial and urban areas, when lack of regulation
1236 of power feeders might result in voltage deviations more than plus or minus five per cent. from normal, these feeders are equipped with voltage regulators of the three-phase type. The regulation of voltage on the lighting circuits is designed to be maintained to within plus or minus 3 per cent. at the

—695—

customers services, and while these circuits are not entirely free of motor load, the motors are in general below five horsepower in size.

Continuity of service to consumers is an important aspect in the design and operation of a distribution system, and

since these lines from the distribution sub-stations to the consumer are exposed, are in most cases overhead and in territory such as that of the Cleveland Electric Illuminating Company, in areas where there are a substantial number of trees the vulnerability of the distribution system to service outage is greater than any other portion of the system.

Continuity of service is protected by the provision of numerous emergency tie-feeders which, in the event of loss of one feeder, or at least the supply to that feeder, permit of cross-connection or interconnection with emergency feeders 1238 from other areas, thus permitting restoration of service prior to the time that it might otherwise be restored were such an emergency feeder not available.

This system, then, too, is designed for operation as a single unified and interconnected whole, where a given area —a given customer, in fact—may be supplied at times from more than one sub-station.

As indicative of the substantial size and the far-flung character of this distribution system, the mileage of overhead wire in the distribution system exceeds 16,000 miles of

—696— 1239

line.

Q. Throughout the entire territory? A. Throughout the entire territory. This distribution system comprises then 115 volt, 230 volt cables, about 350 miles. In 2,300 and 4,600 volt cables, almost 700 miles. 11,000 volt cables to industrial plants, 180 miles. 11,000 volt cables to railway sub-stations, 63 miles, and 33 volt cables to industrial customers twelve miles.

The amount of underground subway required is 410 miles of multiple duct subway, and the equivalent single duct, or

1240 the length of tube in which the cable runs is 3,350 miles on the system.

The number of distribution transformers is 33,500. The number of poles, 192,000; the number of manholes in the underground system is about 9,000; and the number of electric services—the service is a facility between the distribution system and the consumer—is 233,000.

Again, the same system of constant check is employed by the engineering department to insure adequacy of facilities
1241 and adequacy of capacity in advance of load growth. Weekly maximum readings are kept of load on every feeder, every cable, every line. These are plotted and when the trend of these is such as to suggest in the near future or in the definite future, an inadequacy of capacity, design steps are taken to either relieve the particular facility of part of its load,

—697—

transfer its load, or else to increase the capacity of the facility by construction and design.

As evidence, however, of the extent to which these facil-
1242 ities were loaded last year, the average direct current network feeders were loaded to 74 per cent. of their capacity. The average alternating current lighting feeders, 2,300 and 4,600 volt lines were loaded to 76 per cent.; the power feeders of similar class loaded to 79 per cent.; the 11,000 volt industrial cables, 75 per cent.; the 33,000 volt industrial cables, 64 per cent.

In keeping with the requirements of the company that loads are adequately anticipated and construction undertaken in advance of actual need, two new outdoor sub-stations are now definitely being built or about to be put into

service. These are Park sub-station near Painesville, and Thompson sub-station south of Madison, and at two others, Payne sub-station and Heights Sub-station, facilities have just now been completed for increasing the service.

Q. The two sub-stations you referred to as being under construction are not shown on the map, Exhibit No. 21, is that right? A. That is right. No facilities not yet in service are indicated on the map.

In addition to these—or these additions, rather, will provide eight new 4,600 volt feeders and one additional 11,000 1244

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volt industrial feeder is being installed.

A significant development in this system in particular was the very early choice—as early as 1898—to use the distribution voltage at 2,300 volts in three-phase, sixty-cycle, three-wire feeders. That standard, chosen more than forty years ago, is still used in a very substantial portion of the system and was at the time rather a farseeing design in engineering judgment.

That, I think, concludes the discussion of the distribution system. 1245

Q. Do you have other facilities in addition to those that you have already referred to which are devoted to your electric service? A. Yes. As I mentioned in the summary of the facilities which the Company employs, there are, in addition to the electrical facilities, the supplementary properties required to make the electric system work, and these embrace nine offices, a general or main office of the Company in the City of Cleveland, and eight additional offices, largely for the convenience of customers, and since the maintenance and construction of a system of this size requires a sub-

1246 *Elmer L. Lindseth—By Respondents—Direct*

stantial number of items of equipment, warehouses and storerooms are maintained at sixteen locations.

Since transportation is a vital element in restoring and rendering service and in construction, garages are maintained at ten locations, research and test laboratories for

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coal, for materials, for water, for meters, and the many other items employed in the design and servicing of this system; such laboratories are seven in number, and these
1247 in general are of widely diversified types. Most of them are in quarters owned by the Company, but some have been located in leased quarters. Some have been built specifically for the use to which they are put; some are in factory type buildings converted and rebuilt—in general, have been purchased—and here, the warehouses, garages, shops and general offices are used substantially to the limit of their present capacity, but there the inconvenience is to the Company rather than to the consumer and in general such a situation is not so serious as a situation in which consumers' facilities are used to their maximum capacity.

1248 Q. Where is your main office located? A. The main office of the Company is located in the center of Cleveland at the Public Square, and is designated on the map, only as a coincidence, at the point bearing the symbol PS, which is a sub-station located in the basement of the general office building.

Then, to supplement these fixed properties, the Company maintains its own fleet of transportation and construction equipment which embraces 231 trucks, 111 trailers, numerous tractors, pole setting machines, cranes, trenchers, concrete

—700—

mixers, air compressors, pumps, and numerous other portable items of equipment, the aggregate value of which represents about a million and a half dollars.

The Company, in general, does its own construction work of lines, both transmission and distribution. The Company does its own construction in equipping sub-stations, as a result of which this rather substantial amount of portable construction equipment is required.

Q. You are not in the transportation business, however, are you? A. The Company is in the electric utility business 1250
and only to the extent that transportation equipment is required in the business does the Company own its own transportation equipment.

Q. So that when you refer to transportation equipment, you are referring to equipment devoted to electric service? A. That is right.

Mr. Hamilton: This again, Mr. Examiner, is a convenient breaking point.

The Examiner: All right, we will recess until 10:00 o'clock tomorrow morning.

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(Whereupon, at 4:30 o'clock p. m. the hearing was recessed until 10:00 o'clock a. m., August 6, 1940.)

1252 *Elmer L. Lindseth—By Respondents—Direct*

Whereupon, ELMER L. LINDSETH resumed the stand and testified further as follows:

Direct Examination by Mr. Hamilton (Continued):

Q. Mr. Lindseth, yesterday you described generally the properties owned by the Cleveland Electric Illuminating Company. I would like to have you now describe the manner in which those properties are operated. Would you therefore begin with a description of the method of opera-
1253 tion of your power plant system? A. In the operation of the system which I described yesterday, embracing the property included in the territory served by the Cleveland Electric Illuminating Company, a three-fold function is designed to be fulfilled; that is, the company seeks adequately to serve

—724—

the customers, it seeks to fulfill an obligation to its employees, and it seeks to meet its requirements to its stockholders.

In the fulfillment of this function of serving adequately its customers, it is necessary that service be reliable and con-
1254 tinuous, that the rate structuure affording this service to the consumers be at reasonably low cost, with safety adequately provided, and under conditions which foster increased use of electricity in the territory, and the promotion of industrial and commercial development.

In serving its employees, the functions of the company are to insure fair remuneration for the services those employees render, to insure them some reasonable stability of employment, opportunities for advancement, and the provision of safe and favorable working conditions with reasonable provision for retirement.

In the fulfillment of the third of these objectives, the obligation to the stockholders and equity owners of the business, there is the requirement that the investment made in the business be protected against loss, and that there be provided on that investment a reasonable rate of return.

In the operation of the power plants, the sources from which the energy ultimately distributed is obtained, the objectives are to provide at the source this required continuously available adequate source of energy.

—725— 1256

Q. Do you have any figures on the number of men employed in the operation of these power plants? A. For the operation of these three plants which comprise the power generation system of the company, there were employed as of 1939, 575 men of whom 497 were engaged in the operation of the so-called Steam Departments of the plant, those engaged in the generation of steam, and the operation of the turbines and other associated equipment. And there were 78 concerned with the operation of the Electrical Departments of the company.

These plants last year generated about 1,885 million kilo- 1257
watt hours of energy in accordance with the system plan of operation as a single unified system, and this energy was distributed among the several plants in amount of 43 per cent. at the Ashtabula plant, 31.9 per cent. at Avon plant, 24.6 per cent. at Lake Shore plant, and 0.5 per cent. at the Canal Road plant.

The annual system load factor on the peak experienced was 49.3 per cent., and the capacity use factor based on name plate capacities was 40.8 per cent. The resulting fuel economy expressed as B. t. u. per kilowatt hour was 14,707, and the fuel required was about 1,050,000 tons.

1258 *Elmer L. Lindseth—By Respondents—Direct*

Q. I believe you mentioned yesterday that your system load factor was 50 per cent. or thereabouts. The precise figure is 49.3 per cent. as you have just testified today?

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A. The precise figure for 1939 was 49.3 per cent., and the connection in which the 50 per cent. was referred to was a long time picture as an average overall value as the criterion for system design.

Q. Is your 49.3 per cent. figure an average annual figure
1259 of 1939, or is that at a given time which you may specify?
A. Load factor by definition is the ratio between the actual kilowatt hours generated and the product of the peak load generated by the number of hours in the year. That is, it is the ratio between the actual generation and the generation which would have prevailed had the plant run at its top load throughout the entire year.

Mr. Binford: The period is a year?

The Witness: The period is a year.

The significance then is that the average load of the company bore a relationship to the maximum load
1260 which was 49.3 per cent. The peak load was not made within that definition but variously established. It might be a one-hour peak, it might be a half-hour peak, it might be a 15-minute or an instantaneous peak. In this case, it is the instantaneous peak carried during the year, so it is the load factor as related to instantaneous peak.

By Mr. Hamilton:

Q. What department is in charge of the operation of your power plant system? A. The operation of these power

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plants is a combined function of the Steam Department and the Electrical Department with certain supplementary work under the direction of the general safety committee and the safety department of the company. The turbines and boilers of the entire system and their associated equipment in the way of auxiliaries are operated and maintained by the Steam Department under the centralized supervision of the superintendent of power, with an assistant and several associates who direct the supervision of all power plants from the general office in Cleveland. 1262

Under the direction of this Superintendent of Power, however, at each of the power plants, is a plant superintendent who is in charge of the Steam Department activities in this plant.

The production department is under the direction of a production engineer. This is a division of the Steam Department, whose function is to serve all of the power plants throughout the system with technical advice, to furnish assistance—to actually perform the work as a matter of fact, and the testing of power plant equipment, the calculation of necessary system economies and reports, design calculations 1263 involving problems in matters of heat balance, and similar technical problems involved in operation.

The electrical equipment in the individual power plants throughout the system is operated and maintained by the Electrical Department, with again supervision under the

Superintendent of the Electrical Department whose office is in the general office building.

Q. What are the functions of the Electrical Department?

A. The functions of the Electrical Department—are you

referring to the operation of the power plants and referring to those functions?

Q. That is right. A. Stationed in the main office, in the office of the Superintendent of the Electrical Department, is the division known as the Load Dispatcher's Office, where is located the centralized control for the switching and operation of the power plants of the system. This is under the direction of a load dispatcher whose efforts are supplemented by a general dispatcher as well.

1265 Stationed at each plant is an electrical foreman, and under this electrical foreman are the various operators and maintenance men. It is the function of these latter groups to operate the equipment and to regulate voltage and frequency, to maintain plant equipment, to record operating conditions, and carry out the orders under the directions of the central supervising office through the load dispatcher.

Q. You testified that you have three principal sources of power, Avon, Lake Shore and Ashtabula. Are these principal generating stations operated under a general plan of unified control and operation? A. Yes, that is correct. Just

1266 —729—

as the system is designed as a single interconnected, unified whole, so is it operated as a single interconnected system. In matters of economy, for example, plants are operated for best economy not of the plants individually but for the resulting best economy of the system as a whole. Individual plants, for example, might if given favorable loads operate at economies better than are now being experienced, at a sacrifice, however, to the economical operation of a second plant and resulting loss in economy on the system even with an improvement in economy at an individual plant. As a result,

it is the function of the persons charged with the operation of the system in the scheduling of capacity, that that capacity be brought on the line and taken off the line in such a manner as to yield the maximum system benefits, that spare capacity in excess of the load actually being handled be in accordance with system requirements rather than the requirements in an individual station, and the operation in its entirety results in the lowest overall system cost.

I have described the functions of the Electrical Department in accomplishing this, but there are parallel functions 1268
performed in the Steam Department, plan personnel, who likewise act in some substantial measure under instructions from the system load dispatcher. For example, the actual generation of electricity, the operation of the turbo-generators is under the direction of the steam department through

—730—

the turbine operating personnel. These, however, start machines and stop machines under the direction of the load dispatcher, who is an individual in the electrical operating department.

Similarly, boiler room operating personnel charged with 1269
the responsibility of burning the fuel and generating the steam for the operation of the turbines is likewise a department of the Steam Division. Auxiliary departments are the pulverizing mill operating force, the maintenance department for the Steam Department, the mechanical maintenance personnel, the yard personnel charged with responsibility of insuring a continuous supply of coal to the plant.

Then in addition, the Production Department maintains at each plant a skeleton personnel in charge of the routine problems currently encountered, the keeping of the efficiency

1270 *Elmer L. Lindseth—By Respondents—Direct*

records, reports of operation and performance, the maintenance of certain control, and instruments, and other highly specialized equipment, but in a central office is handled the problem of system economies and system efficiencies.

Q. Do you schedule outages for inspection purposes on a system basis rather than on the basis of the consideration of the individual units? A. Yes, that is correct. In scheduling equipment required to be on the line, the first fundamental is that an accurate forecast of the load expected to
1271 be encountered shall be available and made. This is a diffi-

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cult phase of system power plant operation, and one extremely important, because in the event that there is inadequate capacity carried on the line, the adequacy of service is endangered, and in the event of emergency, the generating capacity may actually be inadequate for load experienced.

On the other hand, if in the interest of conservatism or just plain cold feet there is an excess of generating capacity carried on the line, substantial loss in economy results and the situation is quite unsatisfactory.

1272 In the forecasting of peak loads then, considerable time and attention of the engineers is given. In the Cleveland system, this forecasting is done a week in advance on Thursday by the engineers of the Production Department in forecasting the loads expected to be encountered during the ensuing week on a basis of forecasting a load which will prevail in the event of clear weather, and having provided thereto, increments of additional load to be added based on the immediate outlook of weather to be expected. For example, the weather conditions for degrees of severity have different effects on the load to be experienced. In the Cleveland sys-

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tem, those weather conditions to which weight is given are cloudy, overcast, rain or snow and very dark. The Production Department then in forecasting the load for, let us say, today, Tuesday, made a forecast last week of the load which would prevail during the daytime peak and the evening

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peak in the event of clear weather. The load dispatcher then this morning at about 6 o'clock based on the latest available weather information, Government forecasts, radio and airport reports, made a short time forecast of the weather expected to prevail at 8:30 this morning. Had the weather been what it is here, overcast, he would then add to the clear weather base predicted last week, the increment to correct for this degree of weather severity—a forecast—and the boiler room engineers then scheduled adequate boiler capacity, and the turbine room operators put on the line adequate turbine capacity to carry the expected load which would be realized.

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The weather increment on the Cleveland system for cloudy weather is a load 10,000 kilowatts in excess of that expected in clear weather. The corresponding increment for overcast is 20,000 kilowatts, for rain, snow or equivalent, it is 30,000 kilowatts, and weather classed as very dark is predicted to produce a peak load 45,000 kilowatts in excess of what would prevail on a clear day.

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The success in predicting loads is quite good, and it is quite unusual on the system that the actual load will deviate from the forecast assumed by amounts of more than 10,000 kilowatts in loads as high as 400,000, that is the load dispatcher is able with the system of forecasting and the weather

1276 *Elmer L. Lindseth—By Respondents—Direct*

data made available to him to predict the load within devia-

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tions of the order of 2½ or 3 per cent. The usual experience is as small as 5,000 or even less.

Under the provisions of the system's principles of operations under which spare capacity is provided, an error of 10,000 kilowatts in load forecast does not result in any emergency condition resulting, because there is constantly provided on the system excess capacity above the forecasts
1277 by an amount of 10,000 kilowatts to take care of errors in addition to that forecast.

Q. The load forecasting is on a system basis? A. Yes; again, load forecasting is on a system basis.

The Examiner: We will take a short recess.

(Whereupon, a short recess was taken after which the hearing was resumed.)

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By Mr. Hamilton:

Q. Mr. Lindseth, how is the spare capacity in the sys-
1278 tem calculated? A. After the load has been forecast, which is expected to be encountered, and after the margin for uncertainty, which I mentioned previously, of 10,000 kilowatts is added to the actual forecast, there then is required on the system, in aggregate capacity at the three power plants sufficient generating capacity to permit the emergency loss of certain equipment without impairing service.

That is, at any time the system must be so operated that the loss of a main generating unit, a turbine, will not result in an impairment of service or the loss of a boiler or of a transmission line or of a transmission cable. Those are the emergencies provided against in the operation of the system.

Those conditions are classed as emergencies and under the normal design and operation of the system, provision is made for the occurrence of only a single emergency, but provision is not made for the simultaneous occurrence of more than one emergency.

Q. Is the rated capacity of your generating units less than its dependable capacity? A. Yes. In the purchase of equipment for the system, ratings are in general quite conservative and although the nameplate capacity of a machine

—735— 1280

is definitely stated, actual experience in operation usually reveals the true capacity of the machines under normal operating conditions or test conditions, to be in excess of the nameplate capacity.

Recognizing these factors, the Company has rated its equipment—turbines, transmission lines, transformers—in accordance with available test capacities rather than specifically in accordance with nameplate capacities. Dependable test capacity is usually about 90 per cent. of maximum test capacity, realizing, of course, that ideal test conditions are not always, nor even usually, encountered in actual operation. 1281 Electrical equipment, of course, may be operated for short periods at sustained overloads without permanent damage. Boilers may usually be operated for short overloads without damage or impairment of capacities, under conditions usually described as not good conditions, but conditions permitting the loads to be carried.

Capacity is scheduled on and off the line in a manner such that excesses of capacity on the line will not prevail and on the other hand that capacities will be adequate. The number of boilers to be operated is usually more fixed than

is the number of turbines, primarily for economy reasons, however, since turbines are generally able to be started and stopped and usually consume no steam nor auxiliary energy when not operating.

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Boilers, on the other hand, when not actually producing steam, are still consuming fuel in the form of radiation losses later to be made up with starting coal or in the case of certain types of equipment, actually banking coal to maintain
1283 the boiler in its banked condition.

Q. What principles are followed in distributing your system load among the various plants and among the various units in the three main plants? A. In accordance with data made available to the system load dispatcher through the production department, capacities are first operated on the system in accordance with their economy characteristics, and secondly, are loaded in accordance with clearly established principles based on their operating economies.

The principles employed are those of incremental economies. For example, in the system of three power plants
1284 connected by a transmission system, for energy to be delivered into the City of Cleveland, which is generated in Ashtabula Plant, for example, which is fifty or more miles away by transmission line, the economy of generation alone does not control the load imposed on the plant, but recognition is given to the loss which takes place in transporting the energy over so substantial a distance and in the transformation required at the receiving and sending ends of this transmission line.

The economy of generation, then, at the sending end, is

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corrected for incremental line loss and the resulting economy of delivered energy is the criterion which controls the allocation of load between power plants to determine which of two or more power plants shall generate the load.

Similar data are recognized in connection with boilers, for example, and in the generation of the electrical energy, the boiler room economy is a decidedly controlling factor in determining where the generation of energy shall take place.

Q. What maintenance policy is followed with respect to your generating system? A. In order that capacity may be 1286
dependably available, it is, of course, quite vital to the operation of the system that preventive maintenance be practiced to a high degree. Equipment is routinely taken out of commission, inspected, overhauled, in advance of actual breakdown; boilers are scheduled for routine maintenance and cleaning, usually on a basis of operating hours of service, which range for the boilers on the Cleveland system, from fifteen hundred to two thousand service hours.

In the matter of turbines and generators, time of operation is again a factor, but usually because of the long duration of outage required for inspection and overhaul, they are 1287
put rather on a calendar basis and the present practice is thorough and complete overhaul once in three years at least.

Q. Your boilers at times are out of service for inspection as well? A. Yes, they are. They are out on a basis of operating service hours.

Q. So that on maintenance as well, the operation again is on a system basis? A. Yes, it is likely, for example, in scheduling the maintenance of main generators—it is not only likely, but definitely certain—that no two generators

would be out of service simultaneously for anticipated routine maintenance on the entire system.

The scheduling of equipment to be out of service is through the office of the Superintendent of Power who has jurisdiction over all of the power plants and because the system capacity on taking a unit arbitrarily out of service, the capacity of which is 10 per cent. of the system capacity—because under those conditions the system capacity is definitely impaired—the outage of machines is definitely scheduled on
1289 a system basis rather than an individual power plant basis.

The same conditions prevail to lesser degree in the case of boilers, because in all of the plants a boiler is able to be out of service under the present conditions of system rating, without reducing the maximum capacity of the station.

Q. What are the major service problems encountered in the operation of the generating system? A. The most serious

service problem in the operation of a power system of the character of that in Cleveland, with power plants interconnected with transmission lines, is the potential outage
1290 of transmission lines due to storm. A split system, for example, where a power plant is isolated, due to severance of all the transmission circuits, is a major operating problem.

It is one so serious, in fact, and so rarely encountered, that design provision is not made for so serious a casualty. The loss of a single transmission line is able to be encountered—is able to be taken in the normal stride of a system. The loss of a single line usually does not seriously upset operation. The loss of two lines often results in very major readjustments of load required to be carried on power plants, often requiring short time drastic overloading of boilers and

turbines in order to maintain frequency at such a level that the interconnected system can be re-tied, phased in, so to speak.

Q. What is your record on outages resulting from plant failure? A. Service outage resulting from plant failures on the Cleveland system is quite favorable.

Q. That is to say, you have very little of it? A. Since 1926 there has been no outage of a power plant which has resulted in the loss of service to any customer. Service has

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not been curtailed because of power plant failure in more than fourteen years.

Q. Your service problems, then, result, insofar as they exist, from circumstances arising outside the generating plant? A. Yes, that is a fair appraisal of the picture.

Q. Now, turning to the operation of your transmission system. What departments are charged with the operation and maintenance of the transmission systems? A. The transmission system, as I described it yesterday——

Q. (Interposing) If you refer to a map, would you identify it by exhibit number? A. Yes. Will you read what I 1293 have said?

(Whereupon, the answer above recorded was read by the reporter.)

A. (Continuing) ——as shown on Exhibit 21, embraces a substantial amount of high tension transmission line. The main transmission system is that which connects Ashtabula, Avon, and Lake Shore plants, and the sub-transmission system, which carries the energy from this main transmission system to the individual sub-stations, in its operation, is one of the functions of the Electrical Operating Department.

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The operation of this transmission system, its maintenance, its repair and construction, requires the services of

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273 operators, 75 maintenance men, and 80 electrical construction men. These men function under the direction of a supervisory staff including the Electrical Superintendent, his assistant, a system operator, thirteen dispatchers and 36 foremen and supervisors.

Q. What are the functions of the Load Dispatchers with
1295 respect to your transmission system? A. Just as the Load Dispatcher's office is in complete charge of the operation and switching of the generating plants, so the system load dispatcher is in complete charge of the operation of the main transmission system and the sub-transmission system.

The switching of these lines, the scheduling of lines to be out of service, the handling of emergency conditions, both in transmission sub-stations and in distribution sub-stations, is the load dispatcher's duty.

During an average working day, a thousand telephone calls are handled by the load dispatchers during the three
1296 shifts.

Q. What is the nature of those calls? A. Those calls are either sent or received from the load dispatcher's office. They report data as regards loads. They report switching operations performed; they report clearance of trouble; they report the presence of trouble; they ask for instructions and, in cases of serious trouble, might even go so far as to require that lines arbitrarily be taken out of service for emergency

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reasons.

In a month, the number of such calls might reasonably be in excess of 25,000 calls per month, five thousand switch-

ing orders are issued in the course of a month, and in this load dispatcher's office, in connection with the operation and maintenance of—principally the operation of this transmission and sub-transmission system, three thousand log sheets and charts are required per year.

Q. I think you testified that in addition to the load dispatcher, you had the General Dispatcher's office. What is the function of the General Dispatcher's office? A. Just as the system load dispatcher is in charge of minute to minute operations, the General Dispatcher is in charge of 1298
scheduled outage and maintenance of equipment for adjustment, for repair, for inspection, and overhauling. For example, the operation of electrical equipment, without adequate safety precautions, is extremely hazardous.

Safety is a very important consideration in the operation and maintenance of a system such as this. The General Dispatcher is charged with the duty—in the event a department would like to have a circuit taken out of service, for example, for maintenance—the General Dispatcher is charged with the duty of insuring adequate safety by providing against the accidental energizing of that circuit. Relays are 1299
a very vital part of the equipment for the operation of the system.

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In the course of a year's time, this General Load Dispatcher makes requests for equipment out of commission in the amount of—during last year—2,400 such requests. Under the direction of this General Dispatcher, such duties as relay maintenance—and there were 1,050 cases last year of relay maintenance arranged for through the General Dispatcher's office—generator repairs, high line station maintenance, con-

struction, engineering department special test work and all similar functions are arranged through the office of the General Dispatcher.

Q. Where are the offices of the Load Dispatcher and the General Dispatcher located? A. Both the Load Dispatcher's office and the General Dispatcher's office are located in the general office building of the Company in the center of Cleveland.

Q. So that these functions are performed from Cleveland
1301 for the entire service area? A. The operation of the entire transmission system, the centralized control for all the power plants, and of the sub-transmission system, is controlled through the central office in Cleveland.

Q. How is contact maintained between the Load Dispatcher's office and your switch houses and generating plants? A. This contact is primarily by telephone. There are leased lines, private wires, from the Load Dispatcher's office to the power plants and to the principal transmission

sub-stations. The latter—sub-stations and power plants—
1302 are attended through the day with one or more operators continually in attendance.

In addition, at certain of the power plants, operators are located not only in the control rooms for the control of the main equipment, but are also stationed in the plant auxiliary control rooms where the power supply to auxiliaries is handled.

A typical power plant control room performs perhaps as many as 150 switching operations per month on main generating circuits, an operation which requires some degree of skill and experience and knowledge on the part of the operators.

Q. These control room operators have other functions, do they, than merely staying in contact with the load dispatcher? A. Yes, such control room operators are in charge of the electrical operation of the plant. It is their responsibility to maintain the load at the desired levels, maintain constancy of voltage in accordance with pre-established standards at the generating plants, to maintain frequency when frequency is within the control of the operators, to keep constant check on the temperatures of electrical windings, electrical equipment, record numerous items of data 1304
in the matter of loads, current, voltages, and the other numerous elements necessary for an adequate record of power plant

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operation.

Q. Are all of your sub-stations manned by operators? A. No, that is not the case. Of the aggregate of sixty-seven sub-stations of all classes; namely, distribution and transmission, twenty-eight of the sixty-seven are attended sub-stations. As I testified yesterday in connection with certain of the distribution sub-stations, these are wholly automatic in their design and operation, being visited by maintenance personnel for inspection once a week, so that something of the order of 40 per cent. of the sub-stations have operators continually in attendance. 1305

Certain of these high line transmission stations require the services of two operators continuously; direct current sub-stations require two operators continuously on duty. In most cases, alternating current sub-stations of the distribution type, require but one operator on duty.

Q. These non-attended stations have to be inspected periodically? A. Yes, weekly. There are maximum reading

instruments in these sub-stations on all feeders, for example, so that at stated visiting periods, the inspector can, by reading the maximum reading on the instrument, determine the maximum load experienced during the week.

It is these data which are sent to the Engineering Department for check on the adequacy of the facilities.

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Similarly, at these sub-stations, there are usually installed automatic reclosing devices, so that on a distribution
1307 feeder, for example, in the event of just momentary temporary trouble, although the feeder may, itself, trip out, the automatic reclosing device will reclose the switch after a stated period, arbitrarily determined—in our case twelve seconds—and in the event the trouble has then cleared the feeder will be restored to normal service.

On the inspection a week later, the fact of that tripping will be noted from a counter and the operation will be reported to the General Dispatcher's office.

Q. Do you have a relay division which has functions re-
1308 lating to the transmission system? A. Yes. The operation of a system of this character is—principally the switching operations, I should say—are performed through devices termed "relays" which do the thinking for the electrical system. Through the relays, switches are opened in the event the current exceeds a predetermined value—that is, the circuit is overloaded—or if there is lack of balance between the several conductors of a circuit, the relays, detecting this lack of balance, open the circuit breakers.

In the event a certain circuit is desired to operate with current flowing in but one direction, relays may be installed

to protect against the reversal of flow and will open the

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switches on the circuit in the event of such reverse flow.

The relay division maintained during last year more than 16,000 relays and other devices of this character. That is, protective relays, oil switch and airbrake control devices, regulating and other control devices, and oscillographs. The number of individual jobs performed in maintaining these 16,000 devices is of the order of eight thousand. The crew required is eleven men. 1310

Q. Do you have a repair crew which operates on the sub-stations in the transmission system? A. Yes, the repair personnel for all the electrical equipment, whether in generating plants, transmission sub-stations, or distribution sub-stations, is under the supervision of the electrical superintendent, and at these high tension transmission sub-stations, maintenance of all outdoor electrical equipment is handled by these maintenance crews directed from the central dispatcher's office in Cleveland.

The operation on the main transmission system is done entirely with personnel with headquarters in Cleveland. 1311 The sub-transmission system, however—the 33,000 volt lines, in areas substantially removed from Cleveland, for example, as shown on Exhibit 21 in the area in the vicinity of Ashtabula, or in fact, any of these three counties east of Cuyahoga County—such maintenance of sub-transmission

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stations, distribution sub-stations, is carried on with local personnel.

Q. I believe you testified that you have approximately 450 circuit miles of 132 kv. line located on steel towers. How

are those lines maintained? A. The maintenance of those lines is the function of another department and is performed by the Line Department as distinct from the Electrical Department.

The Electrical Department is concerned with the operation of the sub-stations and the power plants and the devices within those power plants and sub-stations for the operation of the line, but the actual maintenance of the towers, the insulators, the right of way and the like, is performed by
1313 another department known as the Line Department.

Q. Those towers have to be climbed periodically, do they, and inspected? A. Yes, in the routine patrolling of the system, those towers are climbed and whatever of maintenance work is suggested by the annual inspection of those towers, is performed.

Q. Do you have a transformer maintenance crew? A. Yes. In the transmission sub-stations and in the power plants, equipment of the character of transformers, power transformers, for changing the voltage of the energy, are under the jurisdiction of the Electrical Operating Depart-
1314 ment, and a specialized division of this electrical operating

department does maintain these main transformers, regulators, potential and current transformers, and similar highly specialized equipment required for the operation of main transmission system and the sub-transmission system.

The number of such units of equipment is 470 main transmission and sub-transmission system transformers, and the range in size is from 300 to 18,000 k. v. a. These, again, are under the jurisdiction of the system—the General Dispatcher's office.

1315

Q. You have station maintenance crews? A. Yes, just as the power plant maintenance personnel is handled centrally, so the main transmission maintenance personnel for main transmission sub-stations is centrally controlled.

Q. In the inspection of this equipment and its maintenance, are safety factors important in prevention of accidents? A. Yes, the hazard of careless operation is very great and the number of potential accidents is appalling. The actual number of accidents is very, very low, due principally to far-range safety planning, active and energetic work on the 1316
part of the safety department in stressing the necessity for safety to all men, and in the case of the Electrical Operating Department, the division charged with this high tension transmission line sub-station operation, a special safety man is a full-time employee of that department alone, whose duty

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it is to investigate possible hazards, to investigate actual accidents, and, in the course of a year's operating, to make recommendations for the mitigation of hazardous conditions.

Q. I believe you testified that the company does the greater bulk of its own construction work. Do you have an 1317
Electrical Construction Division? A. Yes, in the matter of transmission sub-stations, for example, the construction of the building is in all cases performed by building contractors, but the installation of the necessary equipment, the wiring, the setting up of switch-boards, the actual placing of the equipment, is the job of the construction division of the Electrical Operating Department. All major repairs are virtually of the nature of construction and since the personnel must be maintained for such emergency repairs, construction is a natural adjunct to maintenance.

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The work done last year, for example, involved the construction of two whole new sub-stations, installing five new transformer banks, installing new lighting systems in eight sub-stations, the installation of a number of feeder positions in existing sub-stations, and the removal from one of the older power plants, Canal Road, of a 3,750 kilowatt generator that had been retired from service.

These were all functions of the construction division of the operating department.

1319 —751—

Q. What are the principal service problems encountered in the operation of your main sub-transmission system? A. These are the storms and loss of transmission lines to which I referred in connection with the power plants. When a storm of high intensity is experienced over a substantial portion of the entire system at a given time, very substantial damage can result, not so much from the effect of the storm on the transmission lines or sub-transmission lines, themselves, so much as the mechanical damage which results from a tree being up-rooted, for example, and just being driven against
1320 a line and mechanically just taking the conductors right out of service.

For example, in 1931, the most severe storm probably ever experienced on the Cleveland system occurred in June and the first reports of a disturbance in the territory were received by the load dispatcher at about 8:30 in the morning. Very elaborate facilities are available to the Load Dispatcher's office to determine the presence of bad weather—radio service, telephone service, United States Government weather reports, contact with Load Dispatchers in adjoining communities, other systems.

Since Cleveland is interconnected with the Ohio Edison Company, the Load Dispatchers of the two systems are in telephone contact. Immediately, on receiving reports of major disturbances in the territory, men are dispatched to these normally unattended sub-stations in order that

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they may be there in the event of emergency resulting from storm. By 8:45 that day, a storm of mild intensity moved over the system, tripped a few feeders and high voltage lines, but these were restored substantially immediately. 1322

By 10:15, however, the storm had reached the eastern limits of the system, and several severe storm areas developed simultaneously over this entire northeastern section of the system. Wind velocity rose to forty miles an hour. The rain exceeded one inch in a very short time. Thousands of trees were damaged and uprooted, blown into the transmission and distribution lines; hundreds of feeders were tripped; many circuits could not be re-energized because the damage had either taken the lines right down or there had been permanent damage to exposed equipment.

Under such conditions, every employee available is put 1323 to work restoring service. Engineering Department engineers, for example, were drafted to assist in the Dispatcher's office in recording data from office records; sub-stations are serious trouble in many cases—or were in this case—because sewer capacities in the communities were inadequate and water backed up in the basements, flooding essential equipment.

During all this time, however, the generating plants were unaffected, and the main transmission system was unaffected.

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1324 The sub-transmission system was that principally furnishing the problems primarily through the 33,000 volt exposed overhead lines.

It is cases of this class which are the major operating problems for a department like the Operating Department to contend with.

Q. Do you have a Lines Department which operates? A. Yes. The operation of the transmission system and the sub-transmission system from the point of view of the switching
1325 of circuits and the stations is controlled by the Electrical Operating Department, but the actual maintenance and patrolling and operation of the lines is by the Line Department.

These are in charge of not only overhead but underground lines as well, of all voltages, and in the case of distribution the same line department actually handles distribution as handles transmission.

Not only do they take care of operation and routine maintenance, but the Line Department is likewise charged with the responsibility in construction, in pre-construction field
1326 engineering, in construction of underground subways, installation of cables, the maintenance of the right of way, locating trouble, and a vast number of problems in connection with so far-flung a system as the lines of this company.

Q. All the maintenance of these lines is done through

your own facilities—through your own personnel? A. Yes, they were all built by the company's personnel and they are all maintained by the company's personnel.

Q. That involves periodic patrol work? A. Yes, the 132,000 volt system, itself, last year required for maintenance 41,000 man-hours of labor. This, in connection with

the maintenance of the lines, exclusive of the sub-stations. The 33,000 volt overhead lines similarly are under the jurisdiction of the Line Department, and there, too, the maintenance work, like the construction work, is done exclusively by company personnel.

Q. Does the inspection of your other lines require a substantial amount of hourage, and work a substantial personnel? A. Yes, the operation of the 33,000 volt system last year, in construction and maintenance, required 23,000 man hours of effort. 1328

In the maintenance alone of the underground transmission system, 10,000 man hours were required.

This latter covers the inspection of relays and pressure tanks for 66kv., 3-conductor cable, the monthly inspection of joints and terminals, and, in certain cases, a yearly inspection of certain single-conductor 66 kv. circuits.

Other work necessary to be done was caused by twenty-eight cable failures which occurred over the system.

Q. Now, have you told us how frequently these high ten-

sion lines are inspected? A. This high tension system is 1329 patrolled by operating personnel in this department actually walking over the entire length of the line twice a month. The distance from one end of the system to the other, including the branch circuits, is 128 line miles. This distance is walked, summer and winter, in all kinds of weather, every two weeks.

In the event of an emergency tripping or an unexplained case of trouble on a line, this patrolling is necessary to be carried out by night as well as by day.

The operating or maintenance personnel consists of two gangs of fifteen men, making up two crews in skeleton form

at least, and in order that all men may be thoroughly familiar with the entire system—because in emergency there is no opportunity for education; a person must be able to handle these things intuitively—these men are rotated in the sections of the lines which they patrol throughout the year. There are twenty inspection zones, so that the amount of patrolling required in a single day is not excessive.

This high tension transmission line in many cases is through farm type country, in many cases through woods,
1331 across some substantial gullies, valleys, rivers, creeks, and very often to get from one tower to the next tower, only seven hundred feet or at most a thousand feet away, may require going by a very circuitous route. The walking is not too bad,

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neither is it good.

Access is available to all of these transmission towers—in order that trucks may actually drive up to the tower for the replacement of major equipment, but the patrolmen do not take the roads over which the trucks go, rather they take the direct route and patrol the line. They inspect with
1332 field glasses, insulators for flash-over and breakage, usually caused by lightning. They look for burnt spots in the line indicating flash-overs; they look for frayed splices, bad clamps, similar items of routine maintenance on the line.

Q. The right of way, itself, has to be maintained? A. Yes. One of the hazards to these transmission lines is trees growing into the lines, so that the presence of so-called danger trees it noted by the inspector on his patrol, and proper report is made out and the maintenance crew removes such hazards.

Where the company owns the transmission line right of way in fee, the brush is cleared and mowing is done, and where an easement is obtained and objectionable conditions are noted, the person from whom the easement has been obtained very often relieves the situation.

Fences are a real problem, since good relations require that we do not unnecessarily or unjustifiably damage any property belonging to others, so that gates are constantly kept in repair for these access lanes, fence wires are grounded

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in order that voltages are not induced which might result in danger, wash-outs resulting in erosion of land under foundations must be carefully watched lest the towers be weakened, broken culverts and similar problems are always a problem in the maintenance of such equipment.

Q. Have you had instances of loss of a whole tower? A. Yes. Through no cause of the Company's, in 1935 one of its transmission line towers was dynamited. The person, who was later apprehended, and who had been responsible for this, had thought he was going to disrupt the power supply to a factory in a community that we don't even serve, where 1335 he or others were out on strike, so that the company was an innocent victim, but a very real victim of this bombing—dynamiting, I should say.

The dynamiting occurred at night and it was one of two parallel transmission lines, and the dynamite had been so placed that the inner two of the four legs supporting the tower were, both of them, so damaged, that the tower fell over on to the adjoining or the adjacent line.

This resulted in the tripping out of the two inside circuits of the double circuit power lines. That is, there had

been two tower lines with four circuits and when the one tower line had tipped into the other, the inner circuit immediately tripped out. It was not until the next day that the cause of the trouble became known and then repair of the

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damage was somewhat delayed until the authorities could investigate the damage, but by noon, reconstruction work was begun, the tower was hoisted into its normal position, new legs attached to the old tower, and by evening, the serv-
1337 ice was normally restored.

Q. Was there any service interruption as a result of the loss of the tower? In other words, you had the two additional circuits on your other line to carry the load, is that right? A. Yes. Whether there resulted the loss of any customer service, I can't say, in connection with that outrage. The fact that it occurred at about midnight would make very likely that no service was interrupted because system loads are normally very light, and I do specifically remember that day that very substantial excesses of generating capacity were put on at the Lake Shore plant, and it is
1338 not unlikely that the amount of service interruption was very slight from such a failure.

Q. Now, in addition to the maintenance and inspection work on the overhead transmission lines, you have similar work to devote to the underground cables, do you not? A. Yes. The underground maintenance foremen all serve as inspectors on problems of this character, and in connection with their construction or operating work, routinely report to the General Dispatcher any jobs suggesting maintenance to be done.

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Such equipment in underground manholes as junction boxes, oil switches, similar equipment, are routinely inspected and tested every year.

Reservoirs of oil-filled cable are inspected each year. Pressure tanks on three-phase oil-filled cable are inspected every two weeks and manholes of this class are inspected every three months. Cables are particularly susceptible to damage from stray electrical currents, from the effect of electrolysis, and a special crew, routinely, on an annual basis, inspects cable sheets for electrolysis damage. 1340

In connection with the repair of such damage and the repair and construction of subways, excavation, of course, is a very important part of the job. Such excavation is, where possible, done by machine, but in densely populated and congested areas, machine digging is becoming increasingly difficult because of the number of obstructions encountered.

Q. Those obstructions, I assume, may be of varied nature —water? A. Of the widest variety. In any city, the number of utilities requiring space in the streets is very large. 1341 There are water lines, gas lines, sewer lines, telephone conduits, telegraph conduits, electric power conduits, certain other signal systems sometimes associated with the street railways, for example. Historically, these have been built in accordance with many standards. They are of varying depths and run in varying directions.

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The greatest of difficulty is now experienced in any major city in putting an underground line through at any reason-

1342 able depths, because of these obstructions encountered. Some of them have been there for a very great many years.

For example, the first street lighting in Cleveland was installed well before the existence of the Cleveland Electric Illuminating Company as such. Yet, in a recent construction job, the foundation for an enormous street lighting tower was encountered underground which had never been removed. In the early days in Cleveland, fire protection was realized by fire engines pumping water from some kind
1343 of fire cisterns which were buried in the streets and these are even yet encountered in construction jobs occasionally.

Q. What are the major service problems encountered in the maintenance and operation of the underground system? A. Well, the major service problem encountered in the operation of the underground system is cable failure, burnout of the electrical conductors, and the location of the precise point at which this cable has failed often is a problem of considerable perplexity.

For example, a circuit may be five or more miles in length and it is known only that there is a defect some place
1344 in that ground from one end to the other. The ingenuity and the skill required to detect the location of that failure, in

order that good cable not be removed between manholes, but only the damaged cable be removed, that skill and ingenuity must be of a high order. That is the principal problem in connection with the operation of the underground division.

Q. These cables are located in conduits, are they? A. Yes, underground cables are carried in what is known as subway, which consists of one or a number of fiber tubes encased in concrete.

1345

Q. What width, roughly? A. The fiber tubes are in diameter, the very earliest of them, three inches; the more recent ones now being installed in our system, four and a half inches in diameter. These run between manholes which are spaced at varying distances and the cable is then pulled through the resulting—or the duct which is installed in this concrete-encased envelope. It is very often between manholes that the cable has failed and the cable must then be pulled out, a new, good length pulled in and spliced at the two ends in the manhole.

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Q. So that in making the repair, you don't take down the street, but operate from the individual manhole inward? A. That is right. The number of actual street openings required in the maintenance of the underground system is very, very small. It is only when due to wash-out through a leaky sewer or a burst water pipe, that the actual concrete envelope has lost its support and has actually sheared, that it is necessary to dig up the subway and repair the subway.

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Deterioration of concrete-encased subway, buried under ordinary conditions, is very, very slight. The failures are usually failures of the cables rather than the subway containing the cables.

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Mr. Hamilton: This again is a convenient breaking point, Mr. Examiner.

The Examiner: All right, we will recess until 2:00 o'clock.

(Whereupon, at 12:30 o'clock p. m., the hearing was recessed until 2:00 o'clock p. m. the same day.)

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1348 *Elmer L. Lindseth—By Respondents—Direct*

AFTERNOON SESSION

(The hearing was resumed at 2 o'clock p. m.)

The Examiner: You may proceed, gentlemen.

Whereupon ELMER L. LINDSETH resumed the stand and testified further as follows:

Direct Examination by Mr. Hamilton (Continued):

1349 Q. Turning now, Mr. Lindseth, to the company's distribution system, will you state what departments are charged with the maintenance and operation of the distribution system? A. The distribution system is in part overhead and in part underground. The operation and maintenance, however, both in the overhead and the underground phases is in charge of the Lines Department.

The distribution system comprises the portion of the property from sub-stations to customers, the circuits have a range of voltages from 2,300 to 33,000, with the latter in general used for the supply of industrial customers at sub-
1350 transmission voltage, the lower voltages, 2,300 and 4,600 being used for the primary distribution system from which numerous small customers, such as residential and general commercial would be served.

The maintenance of such a system involves the replacement of poles, damaged either by accident or by decay, re-

placement of wires due to deterioration or actual breakage due to storms, trees blowing across them and the like, transformers which have burned out, fuses which have burned out, underground cable which has failed due to electrolysis dam-

aging the cable sheaths or other causes, and in addition the maintenance of consumers' services.

The responsibility for the latter, particularly the service entrance equipment into a house and including the consumer's meter is the responsibility of the service department as distinct from the line department.

Within some limits of flexibility, the responsibility of the Lines Department would be between the sub-station and the pole serving the customer, and the responsibility of the Service Department would be for that portion of the facilities 1352 between the pole and the consumer's premises.

This system is far-flung and covers the entire 1,700 square miles of the service area, and requires for this maintenance the service of 4,800 miles of line and 16,000 miles of wire.

The entire distribution system with extremely minor exceptions was constructed by the construction forces of the company. The exception to which I refer is the portion of the distribution system that would still survive from properties which were purchased during the period of expansion of the company from 1925 to 1929. The aggregate property purchased was $6,000,000, of which, however, $1,000,000 1353

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remains today in the fixed asset accounts of the company.

The property acquired was in general not of a standard of construction adequate to meet the company's service needs. In some cases, the standards were different from those followed by the company, and further than these, the property today is 10 or 15 years older than at the time of purchase, for which reason very substantial amounts have been retired.

With that single exception, then, the entire distribution system having been built by the company is maintained by

1354 *Elmer L. Lindseth—By Respondents—Direct*

the company as an integral or an interconnected single system.

As to the underground system, there are substantial parts of the distribution system which are built underground, particularly in the vicinity of distribution sub-stations where the number of circuits is very great and where overhead construction would be quite objectionable from a public relations point of view.

Q. The construction work and the subway distribution
1355 is done by your own personnel, is that right? A. Yes. As is the practice in other phases of the underground system, the distribution is by the company's forces.

Q. Is this large extent of distribution mileage and wire mileage subject to various hazards by storm and other circumstances? A. Yes, particularly storms. The territory of the Company is in a rather severe storm belt in the country.

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The design is premised on rather severe wind and sleet loads, and while standards of construction are strictly first class,
1356 still the danger of mechanical severance of the circuits is so substantial that maintenance of service in times of storm is a severe operating problem.

Q. Can you illustrate that point? You spoke in your previous testimony of the storm in 1931 that had a direct bearing on the transmission facilities. A. Yes; in connection with the storm that I previously discussed of substantial intensity, throughout the company's service area, the effect of that storm on the distribution system was far more widespread than it was on the transmission system in connection with which I discussed.

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For example, the particular storm in June, 1931, which was in reality three storm centers in the company's system, at various times during the storm, one-third of all of the Company's feeders were out of service. Most of them were restored, however, on the first day of the storm, and practically all of them by midnight.

Under this severe case, and it is by no means to be regarded as a normal or casual incident, 60 poles were broken over, 187 transformers were replaced, 13 oil switches, 35 primary boxes, 26 lightening arrestors, 11 series transformers, and 1,075 transformer fuses were required to remedy the damage.

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That would be definitely an extreme case, but it is illustrative of the magnitude of an emergency for which a routine operating personnel must be maintained against the occasional hazard.

Q. A situation like that requires really then, does it not, the services of a large organization, is that right? A. That is definitely true.

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In connection with that, there is required in order that service interruptions be not too severe, that the system be interconnected to operate as a whole, with emergency crossties between one distribution area and an adjoining area. That is a fundamental of design in construction which is very vital to the adequate operation of the system of this character.

Q. What is the customer record on company outages? A. On the average over the entire territory, a customer of the company experiences an outage of once in five years.

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The average duration of such an outage is about 45 minutes, so that the average duration of outage per customer per year is something less than 9 minutes. These are the records computed for the year 1938. Corresponding records for 1939 have not been computed.

The figures must not be construed to be that this is the record for either a particular customer nor for every customer, but is the average effect on all customers. Many customers, of course, suffer no outage. Many customers, un-

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fortunately, suffer outages of considerably greater duration and considerably greater frequency, but in the aggregate, this is the composite effect.

Q. How much work is involved in maintaining these various distribution lines in the system? A. As of last year, more than 270,000 man hours were spent in emergency repairs and maintenance of the distribution system, and the restoration of the customer's services. Of this total, about 25,000 hours are spent on underground work and 245,000

1362 hours on overhead.

The jobs entailed the emergency replacement of 186 broken or damaged poles, 202 fallen wires, 142 burned out or damaged transformers, 110 cable failures, and the necessary additional emergency replacement of equipment arising during operations. There were required from the public to apprise the company of this service outage situation, 120,000 telephone calls to be received and handled.

Q. How frequently are the poles and the distribution lines inspected. A. You are speaking now of routine inspection?

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Q. What would you tell me on routine inspection? A. In accordance with the company's practice of adequately anticipating maintenance to avoid failure in emergency, the company practices a policy of continuous inspection of over-

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head distribution facilities. The territory of the company is divided into a number of inspection areas to which individual inspectors are assigned, and the areas are so fixed in size that all of the facilities within the area may be examined each year.

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Q. And of course, in emergencies of the character you have mentioned, that extent of inspection or frequency of inspection may well be increased, is that correct? A. In the event of major emergency, there is likely to be after the emergency damages are repaired, an additional inspection of the system to detect residual damage which had not been repaired by the emergency clean-up crew.

Q. Is the purpose of the inspection not only to discover breakdowns that may exist, but also to estimate future life or anticipated life of particular segments of the line? A. Yes, in connection with the routine inspection of facilities

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by the district inspector, estimates are made of the estimated surviving life of the individual units of property.

For example, in the event that a major job is to be done on a pole, or to change a transformer or perhaps to change cross arms and air conductors and the remaining life of that pole were to be but two or three years as estimated from the condition, or perhaps that the ground line were rotting and ultimate failure takes place, it is economical to forego the two or three years of remaining life of that pole and re-

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place it at the time the job is being done with a new pole, since the cost two or three years hence of then replacing the pole by expiration of its ultimate life would exceed the value of the two or three years of additional service which could potentially be realized.

For that reason, these inspectors in their district inspections, not only report on the condition of equipment which is in need of immediate replacement, but likewise are called upon to pass judgment on the economy of replacing
1367 equipment before the expiration of its ultimate life when major construction is being done in the vicinity.

The same prevails, for example, if two poles were being replaced, one on each side of a third, and the third were to have an estimated short additional remaining life, with the construction crews in the neighborhood, with the poles being transported to the job, the economics almost invariably suggest the replacement of the middle pole prior to the ultimate expiration of its life.

Q. In addition to problems created by storms in the service of these lines, are there any other service problems which
1368 require solution in maintaining the lines? A. The system of the company is in a rather heavily wooded section of the country, and one of the severe obstacles in maintaining continuity of service is the problem of tree troubles on overhead distribution lines.

For example, at 2,300 and 4,600 volts, although the conductors in the distribution system are insulated, the presence of a wet branch across two wires results in the outage of that line until the branch is either removed or the conductor is burned clear. This is a typical case of tree trouble. The

problem is solved in one of two ways—either by the erection of very high poles and the distribution is carried over the tree tops, or else the trees are trimmed and the pole lines carried under the tree branches to avoid this interference.

The second of these solutions is not as good as the first, since falling branches can drop on the wires. It is, however, much cheaper from an investment point of view. Construction of high pole lines over the tops of trees is first of all expensive, and secondly is often only a temporary expedient, because the trees are likely to continue to grow up into the 1370 wires.

Q. What has been your experience with wires down due to falling branches of trees? A. Again, in the aggregate, the outages due to wires down is only one outage per year per 100 miles,—a good figure. But in specific cases, individual feeders may have a very much poorer record.

For example, there has been experienced in the past a condition so serious on one feeder as to result in 35 outages per 100 miles of wire per year. This is a condition, however,

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more serious than the company can tolerate, and a line suffering so poor a record of service reliability is rebuilt and replaced with the problem eliminated by one of the two methods I have described.

In the trimming of these trees, the company does not use its own construction or maintenance personnel, but in all cases hires professional tree trimmer service companies to do the job.

This is obviously better from a public relations point of view because consumers prefer to have their trees trimmed

by experts. Actually, too, it probably results in an improved job due to the skilled persons of more experience in this problem.

In 1934, the entire problem of tree interference with distribution systems was studied and a comprehensive analysis based on which study it was determined that certain areas of the company should have the trees trimmed on a routine basis every year. In certain other areas, the trimming on a two-year basis was found to be adequate, and in
1373 the rest of the system on a three-year basis. Such areas are plotted on a map and the frequency of trimming is changed as experience shows of the conditions that have changed.

As the result of such a comprehensive approach to the problem, the feeder which I had mentioned which had suffered an outage of 35 times per 100 miles per year was reduced in the number of outages to 5 outages per 100 miles per

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year.

For the system as a whole, prior to 1933, a three-year average of all cases of wire down due to tree trouble was
1374 7½ times per 100 miles per year.

As a result of these efforts, the aggregate effect has now been reduced to the figure I have mentioned of one wire down per 100 miles per year for all causes including tree troubles.

Q. In general, would you say that extensions are being made all the time in the distribution lines, in additions, and so on? A. Yes, that is correct. Because the area is in neither the urban sections nor the rural sections 100 per cent. served, and in accordance with the file schedules of the company, there are line extension schedules under which the service

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facilities are extended in either urban areas or rural areas and construction takes place each year.

Q. In other words, within the service area shown on Exhibit 21, a gradual process of increased saturation of lines is taking place, is that correct? A. Yes. Last year there were built 90 miles of new distribution lines. This construction of 90 miles of new line required the setting of 3,700 poles and 400 miles of wire. The jobs required 300,000 man hours of work, and resulted in substantial extension of the company's facilities.

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The rebuilding of lines is usually occasioned by the inspection reports of these district inspectors who had reported conditions of such a character as to justify substantial rebuilding or from load growth in a territory requiring the additional facilities to a pole line, such efforts requiring rebuilding of 110 miles of pole line, replacement of more than 4,400 poles, and the expenditure of more than 330,000 man hours. This work entailed the installation of 5,400 transformers, the removal of more than 4,200 transformers, and numerous supplementary items of incidental equipment, pole line hardware, guys, and the like.

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Q. Would you expect this tendency toward increased saturation of lines within the territory to continue? At least, with respect to your record in the past. A. For the immediate future, yes. The construction of new lines will definitely continue for the near future. The rebuilding of existing lines will likewise continue. In general, load density is increasing. The energy consumed per customer is definitely on the increase, and in the areas where distribution facilities are now existent, vacant lots are being built up

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with houses and apartments and small factories are being located, and in many cases the existing facilities will be found to be inadequate and require reconstruction or rebuilding. That effect will without question be with us for a long time. —775—

Q. Do you have a consumers' service organization? A. Yes. All contacts with the consumers are maintained and carried on through a consumers' service organization. Through this organization, the meters are read, the applica-
1379 tions for service are made, the requests to have service facilities increased are made, and it is through the many contacts of this consumers' service organization with the public that the company is able to maintain a high standard of public relations with the consumers.

This group in addition to the functions I have mentioned, handles the inspection services on consumers' premises, and in general is charged with the physical property of the company between the pole and the consumer, and the relations with that consumer.

Q. Does it answer inquiries as to lighting problems? A.
1380 Yes, all inquiries to the company, whether related to problems, bill complaints, applications for change of address in the event of moving,—all such inquiries and complaints are handled through the consumers' service organization. A very large number of telephone calls which I mentioned previously, 120,000 in number received by the company each year to report to service outage or similar problems are made through the consumer service organization. These outages calls are accepted and received through 24 hours of the day.

In addition to service calls of a trouble nature, 90,000 calls are received pertaining to meter transactions, 8,000 in-

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quiries are received in regard to bills rendered. This is a substantial activity of the company and requires 9 per cent. of all of the employees in the service of the company. As of the end of last year, 337 employees were engaged in the service efforts of the company.

Q. You spoke of meter transactions. What do you mean by that? A. A meter transaction may perhaps be described as the request of a new consumer on moving into a premises to have the meter charged to his account, and similarly on his moving from a premises, to have such a meter discon- 1382
nected in his name and blocked, so-called.

Q. Now, as to these calls which relate to service to the consumers, that is customers' complaints, let us say, what is the nature of those calls? A. Of the 120,000 service calls received from customers, 90 per cent. 110,000 of them, are so-called no-light calls. A consumer calls the service department and says, "I am without light; will you fix them?" Of these No-Light Calls, 100,000 are from residential and small commercial customers, and all but 10 per cent. of these are caused by troublesome conditions over which the company has virtually no control, that is a loss of service has been 1383
occasioned from conditions arising on the consumers' own premises, such as faulty wiring, faulty equipment, overloads

on inadequate wiring systems, amateur wiring by the boy in the family, and similar problems. 6 per cent. of them are considered as street lighting calls, calls made by customers to report that the street light in front of the house is burned out. 3 per cent. of them are emergency calls of a serious nature reporting wires down, trees on the wire or other

problems requiring emergency action because the safety of the public is involved. About 1 per cent. of the calls are no-power calls from large commercial and industrial customers and others where different type of maintenance and trouble personnel is required to remedy the emergency.

Q. What is your record in meeting these emergency calls as to the time required? A. In connection with the statistics I gave on the average duration of outage of 45 minutes per year, that is the overall time required from the receiving
1385 of the service call from the consumer to the restoration of service to the consumer. It does, however, likewise include outage caused by failure of the facilities on the company's own equipment, such as the sub-station or a cable over which the consumer has no control.

Q. These meters on the customers' premises are tested, are they not, from time to time? A. Yes. In accordance with the Company's practice of routinely testing and inspecting meters in an average year, 80,000 meters are re-

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1386 moved from the premises and are tested in the meter laboratory. During a similar period, a year, 9,000 meters are tested in the field.

Q. How is that done? A. Meters in the laboratory are tested on a meter test board in which are carried phantom circuit, so-called. The meter circuits and the meters are tested under conditions simulating actual service conditions of load, voltage power factor, and similar conditions. Service meters, as would be expected from the volume of the work—80,000 per year—are tested on a production basis. Special meters of the industrial type or handled in a some-

what individual manner and often each is a specialized problem.

Testing in the field is similarly against standards which are calibrated in the company's research laboratories. Some meters in particularly difficult service installation conditions are tested at rather frequent intervals. The others, when installed under service conditions such that the deviation from theoretical accuracy is not likely to occur and if it does occur not likely to damage such meters are tested on a much less frequent schedule. 1388

Q. Where do these calls which reach the consumers' service organization come? A. The major portion of such calls are made to the main office of the company in Cleveland.

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In the outlying districts, such as the territory represented by the eastern portion of the system as shown on Exhibit 21, in such areas the calls are made to one of the 9 branch offices which serve this entire territory.

In quite rural territory, referring to Exhibit 21, such as Orwell, for example, a local service representative is permanently located there. Similarly, in the village just north 1389 of Orwell at Rock Creek, a service employee is permanently located there. Those are towns about 8 miles apart, but in order that the service may be made available on a 24-hour basis throughout the week, arrangements are made with the telephone company that in the event a service call is received in Orwell and the local representative is unable to be reached, that call is sent to Rock Creek, and vice versa.

Similarly, in relieving these persons, since 24-hour duty is arduous, these men exchange Sundays off, for example, and a problem of Sunday maintenance in one city or one

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town in the event the local representative is at the ball game, is handled by the telephone operator adjoining that town.

In this manner, while the control of the service policies throughout the system is largely centered in Cleveland, the advantages of localized service are realized.

The number of these local branch offices is 8, outside of the main office in Cleveland, of which 7 are in the territory outside and to the east of Cuyahoga County. One of these 7

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1391 is right at the edge of Chagrin Falls. These local branch offices are located at Ashtabula, Chagrin Falls, Chardon, Conneaut, Fairport, Geneva, Jefferson, and Mintor.

Q. What is the function of the branch offices in each of these areas? A. From some of these branch offices, construction work is scheduled. The line foreman reports there, the scheduling of material has to be handled on the job is made through the office. In all cases, applications for service are received and handled through these branch offices. They afford opportunities for these consumers to pay bills, to make complaints if they care to, to have service increased

1392 or changed. Those, I think, are in general the functions of these branch offices.

Q. You have spoken of a so-called local representative. What is his function? A. The local representative in an area where there is no branch office is to represent the company in virtually all of its phases of contact with the consumer requiring local contact. The usual contacts between the customer and the company requiring so-called local management or local representation are in general to apply for service or to discontinue service, to pay a bill or to report a case of trouble or lack of service. Those three efforts con-

stitute the vast majority of the company's contacts with its customers.

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Hence, in the territories where the volume of business is inadequate to maintain even a one-room, one-man branch office, there is still a local representative such as I have described in the villages of Orwell and Rock Creek.

Q. Who operates from his own home? A. He operates from his own home. He reads the meters in the territory, he has a car, a company car, and handles minor cases of 1394
trouble. To him are reported lights out on a farm or a home; he fixes them. He installs service as required within his ability. He in general is the Company in his territory.

The listing in the telephone book—and this is a local village telephone book in Rock Creek—the local service man is Mr. Henry Robinson, listed as C. E. I., trouble man, number, Rock Creek 2441. If no answer, call Orwell No. 122-A.

Off the record.

(Off the record.) 1395

Resuming now,—in this far-flung territory where load density is not great, service requirements are extremely difficult. However, although distances are great, traffic congestion is not a serious problem, and the average time required to handle a case of trouble reported in this eastern portion of this company's system where the distances are small and the lines are rural, the time required to handle trouble there is no greater than is required in the city of

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Cleveland where the distances are much shorter but the traffic congestion much more severe.

In connection with this service activity, one of the opportunities for improvement of public relations between the company and its customers arises out of a situation where the consumer's bill is going to be awfully high. When the company on its routine meter reading finds that the energy used by a consumer has very drastically increased, the company in advance of sending out a bill to that consumer,
1397 sends an inspector to the premises to determine the cause of the drastically increased use. This has been very beneficial to the company in its maintenance of public relations. The inquiry by the inspector of the customer usually takes the form of a question whether that consumer has bought some new load consuming device or what it is that has brought about his greater energy consumption to a figure very markedly higher than it had been in the previous month. In many cases, the company is aware of this increased use that his meter has shown because of the purchase of a major appliance, because of increased use due to
1398 illness or other causes, but in many cases that is not at fault directly; the wiring may be faulty in the consumer's house, the consumption may be drastically increased because of a ground circuit in the wires; and a genuine favor has been done that consumer telling him of his increased consumption and the responsibility is his to fix the wiring and

maybe a wrathful customer has been saved in his good will to the company through the use of these inspectors.

The volume of this questioning of abnormal bills is rather substantial. 36,000 calls were made in 1939 at the

request of the Consumers' Accounting Department to determine this cause of abnormal use in advance of billing the customer. In addition to these 36,000 calls made at the request of the accounting department, 12,000 additional calls were made in response to consumers' requests to determine the cause of increased use after receiving bills.

Portable meters are sometimes installed on the consumer's premises to check the current consumption of new apliances, refrigerators or ranges or other energy consuming devices when the curiosity of the customer as to the energy consumed 1400 justifies his making the request.

Q. In Cleveland proper, how do you handle service complaints or inquiries? A. In Cleveland proper, and by Cleveland proper I refer to Cleveland and its suburbs shown on Exhibit 21 as substantially all of Cuyahoga County,—this area is divided into 12 districts, each of which is subdivided into sections ranging from 3 to 10 sections per district. Trouble crews working in overlapping shifts are assigned to these sections of districts. A trouble crew is a one-man or a two-man or a three-man crew, depending upon the local

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conditions and the character of the territory served. Trouble calls are received in the central service department of the company, they are received usually by telephone, and a notation is made in this service organization of the nature of the trouble, the location of the trouble, the service report is then turned over to a trouble department whose function it is to restore service in accordance with the requirements. The trouble dispatchers have before them also a large scale map of the company's areas on which there are continuously indicated the then present location of any trouble crew.

For example, if in response to a trouble call, crew No. 4 is dispatched to a certain address, such address is indicated with a tab on this map. Before leaving those premises that trouble crew calls in the office to inquire as to his next assignment, and it is this trick which results in cases of trouble being cleared up in these astonishingly short times that we like to talk about.

For example, not infrequently they will call up reporting failure of lights or loss of service, and the trouble man will
1403 be able to report to those premises within a short time as one minute or two minutes, quite bewildering the customer. The answer is, of course, that the trouble crew is just next door or just across the street, and has just completed a job and called in the office at the time that the new trouble call was

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received, and the trouble crew was able to walk across the street and ring the door bell and say "We are here to fix your trouble."

We like to talk about those incidents. Unfortunately, we cannot handle all cases with quite that dispatch.

1404 Significantly, the majority of trouble calls is received during the daytime. 75 per cent. of the calls on lighting trouble are received during the daylight hours. The peak is about 8 in the morning, and they continue fairly high all during the morning, decrease at noon, rise to another secondary peak at twilight, and drop off to a very low level during the very early morning hours. Accordingly, the number of trouble crews or trouble trucks in service varies during the different hours of the day, and although during the 24-hour period there is an aggregate of 30 crews of all classes, it is not to be understood that these are equally divided all

of the time. During periods of storms, these trouble crews are supplemented with auxiliary or emergency crews, and during such periods, as many as 12 of these trouble dispatchers are required on duty to handle the substantial volume of incoming calls.

In general, 16 crews serve the company during the daytime, and during the early morning hours only 2 crews are required in substantially the Cleveland area where are located about 300,000 customers.

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Q. Have you indicated the principal causes of outages on customers' premises? A. The principal cause of outage on consumers' premises is the addition of load quite in excess of the capacity either of the wiring or the fuses. The consequence of such excessive load conditions is of course the burning out of a fuse, the replacement of which should be the responsibility of the consumer, but which is in reality the responsibility of the company in response to a call from the consumer saying that his lights are out.

In some cases, these excesses of load reach rather substantial proportions. One of the frequent cases is that of 1407
a small meeting hall or lodge or church where normal service might be of the order of a few kilowatts, but during a period of a social or a bazaar of some kind, very substantial increases in the load are made and right at the time when the business should be at its best, the lights go out. Such a situation is embarrassing alike to the company and the consumer. It usually results from negligence on the part of the consumer to provide for the increased service requirements in advance, and requires emergency handling on the part of the company.

1408 In some cases, this situation of amateur electricians fixing up the premises results in rather serious consequences to the company, since the consumer takes amounts of energy out of all proportion to the facilities on the pole to supply

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that consumer. That is, the uses in the house are substantially increased, but the overload to the transformer on the pole is so serious to either blow the fuses there or actually to result in the burning out of a transformer.

1409 Q. Are there occasions where you find it necessary to loan equipment to consumers? A. Yes, in some cases equipment is loaned to consumers for their own convenience where the company can thereby render a real service and where it would be a real hardship on the consumer to buy or rent his own equipment.

For example, there was a recent case—this does not quite illustrate the point but is applicable in the matter of flexibility of service requirements—of a steamboat having burned at a dock in Cleveland. The boat sank and it was going to require pumping out of very substantial quantities of water 1410 to make it again serviceable. The installation of permanent equipment, transformers and lines was obviously not to be recommended, and the company in this case installed portable equipment on trucks amounting virtually to a mobile substation, the cost of which was much reduced to the consumer, and the pumping job was done and the equipment returned to the company's stockrooms.

In general, the opportunities for creating good will in the handling of service problems of this character is very

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great, and the company makes every attempt to realize all of the advantages of giving such service at reasonable cost, because doing so results in very definite improvement in the good will of the customer toward the company.

Q. Do you have a consumers' accounting organization? A. Yes. In connection with this vast service job, there is required a very extensive consumers' accounting organization. Part of the duty of the consumers' service organization is the reading of meters on consumers' premises, the results of which are turned over to the accounting department for 1412 billing. The consumers' service organization also works closely with the consumers' accounting organization in these matters of service complaint involving bills, and more especially in these matters of inspection of abnormally high or abnormally low bills.

Q. What are the functions of the accounting organization? A. The functions of the accounting organization are to prepare bills and accounting forms, to render these consumers' bills, to report balances usually on delinquent accounts, and to maintain the records, to provide for the investigation of abnormal bills, through the service depart- 1413 ment, to furnish such information as is required, and to compile statistical information.

These functions are performed in the routine operation of the department in connection with the four fundamental

objectives which are assigned to this department. They, too, have a function of maintaining good consumer relations by serving the consumer speedily and efficiently. They are further required in their normal function to render these bills

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under the proper rate schedules without error and as soon as feasible after the reading of these meters on the consumers' premises.

They have the definite objective of maintaining accurate current records available for very quick reference on inquiry from the customer, and they have to accomplish these jobs at low cost to the company, and of course indirectly to the consumer.

1415 This effort of consumer accounting requires 154 employees at an annual expenditure of $250,000. Through the efforts of this department, about 4,000,000 bills per year are prepared by the several methods employed, whether mechanically or manually. Almost 200,000 requests for information on consumers' accounts are answered, and more than 45,000 abnormal bill investigation requests are prepared.

It is thus seen that the efforts of this department are a substantial effort in the company's operations, and one of very considerable importance.

1416 Q. Does this department handle the steam billing as well as the electric energy? A. Yes. The number of steam customers is slightly more than 600. The billing for the steam

customers is handled by the customers' accounting division who prepare about 6,000 steam bills per year.

Q. What are the subdivisions of the accounting organization? A. In order to perform these numerous jobs in a manner economical and efficient, the organization is divided into a number of functional groups, 11 in fact. One of them is the addressing and bill printing group which maintains the files of the addresses, prepares the bills, that is the

printed bill in advance of having the consumers' billing information put thereon.

A second group, the meter auditing group, which records changes in meter reading, audits the subtractions made by the meter readers and prepares the reports on the abnormal consumption. These are the auditors.

Third, there is a billing group for the residential and small commercial accounts which prepares and approves the actual bill.

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Fourth is a ledger group maintaining the records of these accounts and posts the cash payments and the revenues.

There is a large commercial account group which as its name suggests, takes the responsibility for large commercial accounts, a special ledger group handling special accounts, a cash sorting group which posts the cash stubs representing payments, sorts the stubs for posting and similar

duties.

There is a meter deposit group, and an uncollectible account group maintaining records on meter deposits and final accounts. 1419

A customers' information group is a very important group which handles direct inquiries from customers in regard to their accounts.

A branch office group, which handles the billing relations as between the main office and the branch offices in which meter reading and billing is prepared.

Then, lastly, a miscellaneous group, maintaining controlling accounts on the customers' groups and certain miscellaneous functions.

1420 The organization of a department of this character is quite complex. The number of special situations arising is really quite large. Even though the bulk of the duties are, of course, quite routine, the handling of 4,000,000 bills is of course a production job.

Q. Necessarily, they have to be turned out very rapidly? A. Yes. It is a distinct inconvenience to the company to have delay between the time of meter reading and the time that the bill is rendered. It is an unnecessary delay, and
1421 one which with an efficient and well-trained organization can be reduced to a very short time.

The Examiner: We will take a short recess at this point.

(Short recess taken).

The Examiner: You may proceed.

By Mr. Hamilton:

1422 Q. What are the principal service problems encountered by the consumers accounting organization? A. One of the principal problems encountered in connection with the prompt rendering of bills is that of locked premises to which the meter reader can not gain access. These meter reading schedules are built up far in advance to equalize as evenly as possible throughout the year, the number of days billed in a given monthly bill.

For example, if the period covered by two or more subsequent meter readings were to fluctuate widely, the bill

would fluctuate even though the average rate as which the energy was used had remained constant.

Now, in many instances, when the meter is installed indoors, the meter reader arrives at the premises and finds them locked. The housewife is away. When this condition is multiplied by the many thousand times that it occurs on the system, a problem of some considerable magnitude ensues.

Expense goes up in proportion. Sometime ago it was the policy of the company, in connection with such circumstances to make three independent calls on the premises if necessary 1424
each month in order to read meters. If these premises were then locked on each of six successive calls, letters were written asking the customer for a definite appointment to be on

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the premises so that the meters could be read.

This method, however, was quite too expensive. The next development in the handling of the problem of locked premises was by the use of postcards with dials printed on them, similar in appearance and form to the dials pictured on an electric meter face, and the cards bore the message requesting the customer to look at his meter, draw the position of 1425
the dial hands on the postcard and the meter would be read in absentia in the office.

These were then mailed to the customer and had return address to be returned to the company's office. A reasonably high percentage of these cards were returned, about 60 per cent., but a third of them returned were of no use. Surprisingly, many of the customers had read the gas meters instead of the electric meters. Many of them had the dial hands in obviously incorrect positions. In some instances, the card was not returned but letters were directed to the

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Company in which the customer refused to work for the Company without compensation.

It was obvious, after an experimental period, that this method just wasn't the answer. In 1927, following a long period of experimentation with these and other methods, outdoor meter installation boxes were designed by the Company's service department and transfer of meters was begun from inside to outside the premises.

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1427 Considerable progress has been made since that time in moving meters, and wherever possible now, all new installations are provided with outside meters and at a time of change in occupancy of a building, when it is feasible to do so, a meter is changed from indoors to outdoors.

As a result of this program, now, about 60 per cent. of the meters of the company's residential customers are outside the premises. For those meters still not installed outdoors, the practice is this: If the premises are found locked on the first call, no follow-up is made until the regular meter
1428 reading date one month later. If the premises are again found locked the second time, arrangements are made for one of the Company's special turn-on and turn-off crews, who would be working in that neighborhood, to get the meter reading. If the premises are then still locked, the account is turned over to a special investigator who makes every effort to locate the customer and if he locates him, suggests the transfer of the meter from inside to outside.

Ultimately, it is expected that meters will, all of them, be located outside and it is to this end that the Company's program is directed.

Q. Does the rendering of these bills necessitate the use of highly specialized machinery? A. Yes. This is a highly specialized operation in which opportunities for machine production are realized. For example, in the preparation of

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these bills, blank paper or blank bill stock is fed into machines from which there are obtained the printed bill in four parts. One is the bill to be mailed to the customer, a second part is the duplicate to be retained by the Company, a third part is a collection record, and a fourth part is an 1430 office or a ledger record.

The printing of these—and they are printed on both sides—is accomplished in this bill printing machine, and during the operation of printing the blank form on which the billing is to be done, the customer's address is printed with his meter number, the ledger control data, and the type of account, by symbol.

This, then, is turned over to the billing machine operators on which the data are entered and the subtractions and the calculations made. In addition to the printing of just the bill form, opportunity is also taken to present a sales 1431 message to the consumer, and each month there is printed on the blank bill form a sales plug in the form of a message on the desirability of certain types of appliances or better light, better sight, or the opportunities of cooking electrically, and similar messages.

The opportunity is a valuable one, for the message goes to the customer twelve times a year and is taken advantage of by the advertising in the sales department. In the cal-

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culation of this bill, the data as indicated from the meter

reader's book is placed on the bill. The subtractions are made, the bill computed in accordance with the account classification and the schedule under which the customer is to be billed, the machine—this is done on a billing machine. The machine cuts the bill to size, scores it so that the cash stub portion of the bill can easily be removed by the customer for enclosing it with his check and the complete cycle performed by the machine.

Addressograph stencils are kept for all meters, whether
1433 they are actually in service or not. That is, the billing is primarily tied to an address rather than the name of a consumer and if there is installed in a house a meter bearing a certain number, that meter carries an Addressograph stencil in the record files, even though there be no tenant in the house. The name of the tenant is then missing, removed from the Addressograph stencil and when that Addressograph stencil goes through the machine, no bill is prepared for that meter because of the vacant premises.

Statistics show that in metropolitan Cleveland, all the customers move on an average of every three and a half years.
1434 This gives some idea of the job involved in changing the meter records, the number of such changes required per year being about a hundred thousand for changes of address within the territory.

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This requires continual change in the files of these Addressograph stencils from which the bills are rendered, and the meter reading and the files are so synchronized that the Addressograph stencils are changed on the very day that the meter reading is done in order that bills are not prepared for accounts which are not read, and vice versa.

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Q. You say a hundred thousand? You mean a hundred thousand annually? A. Yes, a hundred thousand annually. Simultaneously with the printing of the bill to be mailed to the consumer, the machine also does the totalizing by printing on a tape the necessary information including the type of account, the number of kilowatt hours billed, the revenue billed, and the rate schedule on which it is billed, so that at the conclusion of the run of these bills through the billing machine, there may be taken off from the totalizing tape the number of bills which have been billed for 1436 that group under each account and the other statistical data which are valuable and necessary to the company.

The operators of these machines produce bills at the rate of over 300 per hour and good operators produce as many as 1,600 bills without making any mistake which requires a reprinting of a new bill. The average among good operators is to produce four thousand bills—that represents some thirteen working hours—before making a single mistake which

—798—

the operator, herself, does not detect.

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Mr. Hamilton: Off the record for a moment.

(Discussion off the record.)

Mr. Hamilton: On the record again,

By Mr. Hamilton:

Q. Where is your consumers accounting organization located? A. The consumers accounting organization and all of the necessary mechanical bill calculating machines are located in the central office in Cleveland. In the branch

offices, incidental work is done in connection with meter reading and the manual preparation of bills, but meter reading books from these districts are sent into the Cleveland office for calculation of the consumers bill, and the bills returned to the territory.

Q. You mentioned some of the service problems arising out of the conduct of this accounting organization. Are there others which you haven't mentioned? A. There are a very substantial number of special problems arising out of this
1439 function of billing. For example, real estate interests who may own properties in various portions of the city, the reading dates for which are diverse, like to have that bill rendered for all of the premises as of the same date, say on the first of the month.

This requires special treatment, because billing is normally done every day in the month, or at least every work-

ing day in the month, when consumers bills are sent out one or two days after the meter is read.

The retaining of such special accounts and contacts is
1440 a troublesome problem, an inconvenience to the company and requires an amount of effort out of all proportion to the convenience which results to the customer. Certain governmental agencies require that bills be certified and rendered in duplicate or triplicate or quadruplicate. This, too, requires special forms and special handling.

Some customers request that their meters be read on certain stated days. For example, the lady of the house is to be home only on a certain day and asks that the meter be read on just that day. Such out-of-routine requirements make for confusion.

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Not infrequently, payment is received with no identification of the consumer from whom it comes. A postal money order will be received, checks will be received with either inadequate identification or no identification and this causes quite an inconvenience to the Company in the event the consumer isn't identified.

It is obviously a nasty problem because the customer has conscientiously paid his bill, but the company just doesn't know it.

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Q. You meet these requests, do you, for specific days for meter reading? A. Well, within the ability of the company

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to do so, yes. Consumer relations are very important in a business such as ours and rather extreme inconvenience is suffered by the company in order to meet the requirements of its customers. This is a very important function of the company; it is a very substantial item of expense.

The cost of preparing the bill, without delivery of that bill but just the preparation of that bill, amounts to six cents per bill rendered or a cost of 70 cents per year per consumer.

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Q. Includes the cost of reading the meter, too? A. No, that is the cost only of consumers accounting.

Q. You maintain a credit and collection division? A. Yes, this, too, is an important public relations contact department of the company since the habits of people, being what they are, require that rather substantial collection efforts be given to getting the revenue in as income.

The Collection Department of the Company has half as great a number of employees as the consumers accounting department, requires 74 employees and has an annual ex-

1444 *Elmer L. Lindseth—By Respondents—Direct*

pense, including uncollectable accounts, of $300,000.00 per year.

Q. What are the other functions of this division? A. The credit division of the Company handles not only the collection of delinquent accounts, and the number of such contacts is about 45,000 per month, or more than 530,000

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delinquent accounts per year, but in addition, handles credit investigation of new accounts in a number reaching 15,000

1445 per year, and complaints which reach 4,000 in number.

The contacts of this department with the public then aggregate more than 100,000 contacts with customers per month, since in the handling of those delinquent accounts sometimes two and three calls are required. These 106,000 contacts per month are made up of about 10,000 office contacts, 29,000 contacts per month average by mail, including collection notices mailed and about 60,000 collector contacts per month where the collector visits the customer on the premises, and some 6,000 telephone contacts.

The aggregate of all of these is more than a million and

1446 a quarter contacts between the Company and its customers through the credit and collection department, an opportunity to incur goodwill through doing a good job or distinctly ill-will through poorly handling the job.

Q. Is the maintenance of this division an expensive item from the standpoint of operating expense? A. Based on the results, the Collection Department has done a very satisfactory job. The credit losses resulting from this activity amounted last year to but one-sixth of one per cent. That is, uncollectable accounts written off amounted to less than $50,000.00 in a gross revenue of $29,000,000.00. The index

of the effectiveness of the collection policies of the Company

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may be measured by a ratio described as the "collection percentage" which is the ratio between the amount of money collected in a month and the amount of accounts receivable at the beginning of the month. That ratio for 1939 was 97 per cent.

That is, the ratio between the average month's income collected to the accounts receivable was 97 per cent. From this may be computed the so-called collection lag or the 1448 average length of time between billing and receipt of the collection.

There is neither discount for prompt payment, nor penalty for delayed payment in the rate structure of the Company and as a result there is no particular saving incentive on the part of the customer to make prompt payment of his bill.

In the matter of specific costs, in 1939 I have referred to the figure of uncollectables, which I incorrectly stated to be slightly less than $50,000.00. In reality it was slightly more than $50,000.00, being $51,000.00

The average uncollectables over the last five years has 1449 been almost exactly $50,000.00, and within narrow limits remains unchanged.

The average cost of bill delivery, collection through cashiers and agents, operation of the collection department, and the uncollectable accounts, totals about $375,000.00 per year or a combined expense per customer of about $1.15 per

—803—

year per customer for bill delivery and collection. When related to dollars of revenue, this becomes about one and a quarter cents for the unit collection cost per dollar of revenue.

1450 Q. What are the principal objectives of this division? A. This division again, being a customer's contact division, has the fundamental objective of gaining and holding the goodwill of the customer and the community through the application of a liberal common sense credit collection and adjustment policy.

It is, of course, the duty of the company to collect for the service it renders to its consumers, in order that those who do pay promptly may get their service at reasonable
1451 cost. Secondly, the credit department is charged with the responsibility of turning over the accounts receivable of the company in the shortest possible time and to accomplish these foregoing two objectives with low cost to the company and at reasonable or low uncollectable account losses.

Q. In its operations, does the division require any cooperation of other divisions of the company's staff? A. Yes, the meter division of the service department works quite close with the credit and collection division. All preliminary work up to the point of actually turning off service for non-payment, is done by the credit and collection division. How-
1452 ever, if the means of this credit and collection division have

been exhausted and the meter is scheduled for disconnection as a result of non-payment, it is the meter division employees who are responsible for such disconnection. These meter division employees are, however, authorized to make collections as an alternative to cutting off service and in many cases, of course, do make such collections.

Now, in performing these collection functions, this credit and collection division section, to minimize its ultimate job by commencing with the credit investigation of the new

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customers, one of the first functions of this division is to pass on the credit of new customers. It collects these past due accounts, deals with complaints, arranges settlements for unmetered service—unmetered service usually being stolen service through tampered meters. It conducts all correspondence and other contacts with consumers, and it supervises collection agencies which are located throughout the Company's territory, to whom consumers may pay their bills in lieu of payment to a branch office of the company.

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Q. What are the subdivisions within the organization's credit and collection division? A. Well, the credit and collection group is organized functionally as is the consumers accounting group, and embraces a general group which supervises the operations of the division, collects large accounts and handles the relations with these collection agents.

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There is a group of interviewers, a public contact group, who actually contact the public. There is a collection group on active accounts—that is, customers who have not moved or discontinued service—a collection group on final accounts for customers who have left the company's lines, and then

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a branch office group which correlates the activities of the collection division in Cleveland with the efforts in these various branch offices.

In performing these functions, the Company's policy is to minimize red tape required incidental to opening an account, and application for service may be made by telephone or mail without at all requiring, on the part of a residential consumer, that he make a personal call at any office of the company, or sign any application, for residential service. Neither is there any deposit required or other security ex-

cept in the case of transients or other persons with uncertain sources of income.

Q. How do you determine into what category the residential consumer falls? A. When a residential applicant calls up or writes in or makes in person a request for service, the credit clerks determine whether a deposit shall be required by getting from the applicant his name, his address at which he wants service, his former address where he had formerly been a Company customer, and his business con-
1457 nection. Based on these facts, if his credit record has been

good at his former location, his credit record will be good at his new location. If he is unable to give such credit data as are required to establish what his credit situation is or will be, then a deposit is required.

Commercial customers, however, because the hazard or possibility of a bad debt loss is greater than that of residential customers, are scrutinized more closely for their credit. The applicant's personal record of his assets and his experience and the nature of his business are considered and
1458 if, after the consideration of these factors, it is felt that a deposit is required, such deposit is made.

Signed applications are required from all applicants for commercial service, although they are not required for residential service.

Furthermore, in the handling of the collection of accounts, all consumers are not treated alike. That is, the collection policy of the company is to endeavor to give due consideration to the fact that some customers, although financially responsible, and able and willing to pay, inadvertently fail to remit—they forget or mislay the bill.

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A second class of customers are those who, while responsible, have the habit of putting off payment until urged by the company to do so.

A third consideration is a group of customers who are

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honestly trying to meet their obligations in the face of discouraging difficulties; and a fourth group who are irresponsible, poor or incapable of managing their personal affairs and paid only when forced to do so.

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Many accounts are eliminated from collection work because the amount of the delinquency is too small to warrant a collection effort. For example, it is the Company's general practice to withhold from collection work all residential accounts on which the consumer owes for only one month's service and any account, whether it be a residential or a commercial account, if the amount due thereon is less than $5.00. That is, if a consumre's account be at the rate of a dollar per month, no collection effort is made until the delinquency reaches $5.00 which might be five months of service.

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If, during collection activity, a bill which had been, for example, $8.00, is reduced by a payment of $4.00, collection effort ceases on the remaining $4.00 until the delinquency again reaches $5.00; or, if regardless of the size of the delinquency, the customer pays more than one-half of his account, further collection action in that monthly cycle is stopped.

Action on those accounts, which, however, are scheduled for collection, commences two days after the due date of the account and this due date is about ten days after the mailing

date. After collection starts, there is a five-day interval be-

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tween the successive steps in the collection.

In order to differentiate between customers, based on their paying record, accounts are classified and designated in the credit department in accordance with the following designation: An "A" account is an old customer who rarely, if ever, is delinquent. Action on such a customer is taken only at the discretion of the sectional collection supervisor.

1463 A "B" account is an account of an old customer who is occasionally delinquent and collection procedure here is to make two preliminary contacts, either by mail or by a collector as the first two steps. Then there is sent a cut-off notice by mail. If payment is then not yet arranged, a cut-off collector is sent, who acquaints the customer with the fact that if the delinquency is not made up, service will have to be cut off.

A "C" account is a customer who is frequently delinquent and habitually is in arrears and is paying on account. For such a class, there is one preliminary contact by a collector.

1464 Then a cut-off notice by a collector, and the third step is the sending of the cut-off collector.

A fourth class of accounts is the so-called "N" account which is that of a new customer who takes the same collection procedure as an old customer who is just occasionally delinquent.

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No charge is made for the reconnection of a customer whose service has been cut off for non-payment. Prior to the depression—or the most troublesome period in the depres-

sion, in 1933—a collection charge of a dollar was made for restoring service which had been cut off for non-payment. This, however, worked some genuine hardship on customers who were quite unable to pay during the depression, and during that period, the re-connection charge was abandoned.

At the time of a request to be reconnected, after disconnection, the customer almost invariably comes into the office of his own volition and is then interviewed by the public contact group in this division. Effort is made to collect the full amount of the past due account before reconnecting the 1466
service, but the full story of the customer's circumstances is obtained and where these circumstances warrant, satisfactory arrangements for the completion of the payment of the old account are made and service is turned on on payment of less than the full amount of the old account.

About 60 per cent. of the reconnections after cut-off are thus made with less than full payment, and the average percentage of payment before service is restored averages about 50 per cent.

On payment of this portion of the old account, the only other requisite for restoring service is that satisfactory ar- 1467
rangements be made for completing the payment of the old

account.

The major service problem in this collection division is to make available to the consumer, convenient sources through which the company may receive the revenue, and the customer may make his payments. To accomplish this ease of payment, the company makes available to the customers throughout the territory payment opportunities through

so-called bill collection agencies. These bill collection agencies are eighty-five banks in the territory where at no charge to the consumer he may pay his bill, and thirty-one other agencies, other than the nine company offices, and these other agencies in territories where there are neither branch banks nor company offices may be merchants in the territory such as the grocer, or other accredited individuals to whom the consumer may pay his bill.

The aggregate number of bills paid by check to the com-
1469 pany offices by mail is not the large portion of the bills collected by the company. These bill collection agencies are distributed throughout the company's territory to insure adequacy of service to all customers with minimum of inconvenience.

Q. Does your so-called local representative handle this aspect of the work, too? A. Yes, the local representative is an accredited collector as well as a meter reader or a complaint investigator.

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Q. Previously, in your testimony, you spoke of other
1470 facilities owned by the company, quite apart from the generating stations, distribution lines, and transmission lines. Would you state the function which that property owned by the Company serves in the Company's operation? A. In the operation of this miscellaneous general-purpose equipment, operation of the shops and garages, there is a very substantial personnel required and a very substantial operating organization.

For example, at the garages of the company alone, there are required the services of 126 men who are charged with car inspections, painting, overhauling, and similar duties in

connection with the substantial fleet of trucks and cars. The Company's fleet of transportation equipment travels five million miles a year, uses five hundred thousand gallons of gasoline—or very nearly so—and is a very substantial problem in the company's operation.

A part of this division is the so-called transportation department, itself, which provides transportation service for the routine and emergency movement of materials. The transportation department operates twenty-three vehicles and is available on request from any department of the com- 1472
pany to transport equipment or supplies or materials wherever required. The number of jobs handled in a year is 11,000, and of these transportation jobs, 98 per cent. of the

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calls are completed on or before the scheduled time.

Transportation trucks are located in garages adjacent to warehouses in order to expedite obtaining materials and the loading of such equipment. Requests for moving material are telephoned to a schedule clerk or a schedule desk; the driver is given his order by telephone and the job is started.

In emergencies, the importance of such a transportation 1473
department is well realized. For example just two months ago, in June of this year, a particularly localized wind and rain storm broke off seven consecutive poles in a feeder line serving a small village in the suburbs of Cleveland. It involved the supply to the transmission station of a major radio broadcasting company and the village pumping station. The trouble department, of course, was promptly on the job, but was handicapped for lack of equipment because obviously a mobile trouble crew does not carry with it seven poles. However, the transportation department, on checking routine job

orders on file, found that there was loaded at one of the locations, a trailer for the delivery the next morning of the same size poles to another job.

This equipment was redispatched to the affected area, the material delivered, service restored, and the equipment returned in four hours.

This is, of course, an outstanding case of the opportunity of transportation equipment to reduce duration of

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1475 outage in the event of emergency, but is characteristic of the class of service required of them and experienced by them.

Q. Now, you have various shops which are in operation. What are they? A. In connection with the very substantial amount of construction work performed by the company, there are also operated shops.

For example, a shop is required for the inspection, adjustment, testing and repair of transformers, and the transformer repair department performs such operations on as many as 4,000 transformers per year which have been removed from the Company's lines.

1476 This shop also inspects and tests approximately 2,000 new transformers per year, and it is, in general, the policy of the company to replace transformers on the pole rather than to make any emergency repairs except under extraordinary conditions, on the pole.

Such a removed transformer is then sent to the shop, is checked, reconditioned, and returned to the stockroom.

Another similar shop is the cable shop, where reclaimed cable is handled. Cable, after being removed from the ground, whether because it has been displaced by cable of another

size or because a portion of the cable has failed, or for whatever other reason, is sent to the cable shop, where it is

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inspected, where the defective portions are removed and the good portions of the cable respliced into longer lengths for reuse.

This operation has been particularly beneficial to the Company. There go through this cable shop some 150,000 feet of used cable per year, and of this amount about 60 per cent. is reclaimed for re-use, and the balance is scrapped. 1478 About 65 per cent. of this salvaged cable is spliced into lengths up to as much as a thousand feet for re-use. The rest of the cable is returned to stock without splicing.

Transmission wire, both bare and insulated, is also inspected in the same division and about 70,000 feet per year is passed through this shop. Substantial savings are realized in the reclaiming of cable which amount to as high as a dollar per foot.

Q. Where are these shops located? A. The shops are located at several points throughout the Company's territory. The two major shops are located in the Cleveland district at 1479 Miles location in Cleveland and at Brooklyn. Those are the two major shops of the company.

In addition to the shop functions which I have described, there is an additional special equipment shop maintained to service the numerous items of specialized construction equipment, such as trenching machinery, concrete mixers, cranes, pole setting equipment, air compressors, pumps and the like,

—815—

and there is in addition a tool repair shop to handle the numerous tools required by the Company in the construction

and maintenance of the system. In the tool repair shop, not only is maintenance work done, but certain items of construction materials are either reclaimed or originally built.

For example, street lighting brackets are made in the tool repair shop, cable racks are made, ladders are built for underground manholes. The outdoor meter case assemblies, which I described in connection with the transfer of metering equipment from indoor to outdoor locations, are made or assembled in this shop.

1481 This shop builds special laboratory equipment. For example, when the research laboratory was recently in need of some highly specialized equipment not available in the market, such equipment being able to be obtained only by construction in accordance with specialized drawings, the equipment was built in the Company's own shop.

Q. Do you have warehouses among your properties? A. Yes.

Q. What purpose do they serve? A. The warehouses on the property are the locations at which these numerous items of emergency repair materials and routine construction and

1482 operating materials are maintained.

The stores department operates as a single unified depart-

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ment throughout the system, and it operates eighteen units, comprising a central stores office, five main warehouses, five sub-storerooms, four plant storerooms, two garage storerooms and one pole-processing yard.

Q. Does this particular phase of the operations require employment of a substantial number of men? A. The stores department has in the aggregate a hundred employees. 22,000 items of material are stocked. The average value of the in-

ventory of materials is about $2,400,000.00. In an average year about 620,000 items are handled in all stock dispensing transactions, and the average value of such materials handled in a year is estimated at $2,000,000.00. Six hundred carloads of material are required in a year. Eleven hundred tons of scrap are handled.

In addition to the storage functions, this division handles the processing or the creosoting of 7,000 poles and 23,000 cross-arms—a very substantial effort.

Q. What is the nature of the material stored? Is it made 1484
up of wire and supplies necessary for lines? What would be the general description of it? A. The 22,000 items naturally cover a very wide range of materials and parts. The number of specific types of materials is obviously a small part of the aggregate of 22,000 items. By far the greatest number of items are specialized maintenance parts except for numerous items of equipment such as oil switches, re-

lays, or in the power plants the turbines, the boilers, the pumps, and for the line department such devices as insulators, disconnects and the like. 1485

A substantial amount of the material, however, is in the form of wire, cables, pole-line hardware, bolts, brackets, cross-arms, pins, tie-wires, and similar items.

Q. Are the warehouses you have spoken of distributed over the territory served? A. Yes. These warehouses are distributed for maximum convenience of the operating and maintenance personnel in order that the time required to get equipment and materials to areas affected by service outage will be kept to a minimum, and it may be said that on the system map, Exhibit 21, that such warehouses are

1486 *Elmer L. Lindseth—By Respondents—Direct*

distributed throughout the territory—one being located, for example, at Conneaut in the extreme eastern portion of the territory; the next one at Ashtabula, south of Ashtabula, at Jefferson; another at Geneva; yet another at Mentor, Chardon, Chagrin Falls. Then, moving into Cleveland and suburbs, the rest of these storerooms are located in Cuyahoga County with the exception of one maintained at the extreme western end of the system at Avon.

Q. And that distribution is necessary to the efficient
1487 operation of the system? A. Yes.

Q. Are there any particular objectives of this division
—818—
of the Company's operations other than those which you have mentioned? A. The principal objectives in the operation of an incidental department of this character, where contact with the public is indirect, is that the service to the company's trouble, construction and maintenance forces be adequate to permit these forces to render the necessary service, and that such warehouse efforts be carried on economically and with adequate safety to the Company personnel.

1488 The number of items should be kept to a reasonable minimum. As a result of the effort to keep this number of items at a reasonable but adequate minimum, the number of items carried by the stores department of the Company has been reduced from about 25,000 to about 22,000 at the present time. This has been accomplished by working off dead stocks, standardizing sizes, and a more careful scrutiny of items formerly put in stock from removal jobs where in too many cases material which was just junk was being saved and maintained in a stock.

The stores department discourages the use of white elephants carried in stock, odd sizes, miscellaneous specifications of material, in its constant effort to keep reduced to a minimum types, sizes, styles and the like.

The material carried is carried under two requirements as to quantity maintained on hand. First, that the quantity

—819—

be adequate to take care of routine requirements for construction and normal maintenance; but second, that the quantity be adequate to take care of these very infrequent 1490 major emergencies that require very abnormal amounts of construction material.

So that minimum supplies on hand are usually dictated by emergency, and there are fixed for each class of property —that is, each size of pole, each size of wire, each size of cable—minimum quantities permitted to be carried as estimated from the emergency requirements which result from very major disturbances in the community.

Mr. Hamilton: I think, Mr. Examiner, that again represents a convenient breaking point. 1491

The Examiner: All right, we will recess until tomorrow morning at 10:00 o'clock.

(Whereupon, at 4:35 o'clock p. m., the hearing was recessed until 10:00 o'clock a. m., August 7, 1940.)

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1492

BEFORE THE

Securities and Exchange Commission

Docket No. 59-10

IN THE MATTER

of

THE NORTH AMERICAN COMPANY, *et al.*

1493

Hearing Room 1103
Securities and Exchange Comm. Bldg.
Wednesday, August 7, 1940
Washington, D. C.

Met, pursuant to recess, at 10:50 o'clock a. m.

Before: W. W. SWIFT, *Trial Examiner.*

1494

Appearances:

CHARLES S. HAMILTON, JR., of Sullivan & Cromwell, 48 Wall Street, New York, N. Y., Attorneys for the Respondents.

S. PEARCE BROWNING, JR., of Sullivan & Cromwell, 48 Wall Street, New York, N. Y., Attorneys for the Respondents.

RALPH C. BINFORD and
ARTHUR J. BUSWELL, Attorneys for the Securities and Exchange Commission.

1495

PROCEEDINGS

The Examiner: The hearing will come to order. Due to counsel for both sides wanting to be present at another hearing we are starting a little late and I thought I would make that statement to explain why we did not start promptly at ten o'clock.

Whereupon ELMER L. LINDSETH resumed the stand and testified further as follows:

1496

Direct Examination by Mr. Hamilton (Continued):

Q. Mr. Lindseth, do you feel that the electric service rendered by the Cleveland Electric Illuminating Company is of high quality? A. As I have testified in the description of the physical properties, a fundamental criteria in the design of the system is that service be reliable and adequate for the consumers served. Similarly in connection with my testimony relating to the manner in which this system is operated, I have pointed out that a fundamental objective is that the service to the consumers be adequate in matters of continuity, reliability and other phases of service. The 1497
manifestations of high quality service to consumers and to the community are continuity and reliability of the electrical supply, itself.

Q. If I may interrupt, you are speaking of your own company, of course, are you not? A. Yes. Second, that

there be the necessary constancy of voltage and frequency. Third, that in the event of interruption of service that there be a reasonably prompt restoration thereof, and fourth, that there be promptness and convenience in furnishing service to new consumers, making additions to service requirements

for present consumers in the metering, in billing in general, and in the handling of all consumer service and customer relations.

Q. Has the unification, so to speak, of your electric facilities as to which you testified, provided the insurance for maintenance of this character of service? A. In my judgment only by virtue of the fact that the system is operated as an interconnected single system, unified throughout the territory in its physical properties and operating under well
1499 defined system policies of operation, has this high standard of service been able to be realized. It is the unification of the system into a single operating unit that makes possible the high state of development to which these properties have been brought.

Q. Now, would you illustrate further the theory of maintenance of good electric service by specific examples of the manner in which service is maintained?

I would like to have you refer specifically, if you will, to service interruptions. Have you any data as to the character of service interruptions? A. Although the Company's
1500 —823—
property is relatively more exposed to hazards from storm and other interruptions by virtue of the fact that more than 12,000 miles of the company's 14,000 miles of circuits are carried overhead, still even in the case of this condition the record of service interruptions is such as to yield a frequency of outage per consumer of all classes in the aggregate for the entire system which is once in five years, or the reciprocal thereof, a frequency of outage of 0.19 times per year.

This over-all figure is for the system as a whole and is the composite for all consumers. Because of the variations

in the exposure of the system to causes of outage, such as the incidents of storms, lightning and the like, this record of service reliability is not uniform throughout the territory.

For example, within the territory immediately surrounding the city of Cleveland, the territory designated in Exhibit 21 as Cleveland and suburbs, including the portion immediately to the west of Cleveland, this incidence of service outage caused by failure of the Company's facilities is but 0.05 times per year, or a frequency of outage of once in 19 years. 1502

I should make clear in connection with all of these statements relating to the frequency of consumer outage, that the frequency figures which I am giving and the corresponding duration of outage figures which I will give, are those caused by factors over which the Company assumes responsibility, namely the failure of sub-stations, the failure of the Com-

—824—

pany's primary or secondary distribution system, the failure of company-owned transformers or service wires, but do not include outage suffered by the customer from causes over which he himself, supposedly has control such as, for 1503 example, the failure of wiring within his own premises due to neglect of adequate maintenance, inadequacy and improper operation, or any of the other causes which may result in an individual customer suffering outage due to his own causes.

To resume then, and again referring to Exhibit 21, in the territory comprising the three counties in the eastern portion of the system to the right, to the east of the territory described as Cleveland and suburbs, the incidents of outage is at the rate of 1.58 times per year, or a frequency of outage per customer of once in eight months.

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Summarizing then, the average frequency of outage suffered by all customers on the system is once in five years. Within the area described as Cleveland and suburbs, this frequency is once in 19 years. In the area comprising the three counties in the eastern portion of the system, this frequency is once in eight months.

Q. Is the less favorable record in the eastern territory due to the larger presence of overhead distribution lines as distinguished from underground lines in the city of Cleve-
1505 land? A. Yes, that is fundamentally the cause for the difference in the record. It is an established principle in our

own experience and of the utility industry that the reliability of underground transmission and distribution is vastly superior to the reliability of overhead transmission and distribution. Within the city of Cleveland, because of the density of consumers and because of traffic conditions and congestion resulting, it is expedient that the transmission and distribution facilities be largely installed underground. The cost thereof is very materially greater than overhead con-
1506 struction, often being in the ratio of ten to one in the cost of underground as against overhead for corresponding facilities.

In order that service may be extended to sparsely settled communities and rural areas at any reasonable cost to the consumer at all, it becomes necessary that there be some sacrifice of service continuity and reliability through the use of over-head distribution and transmission facilities. Lacking these, the economics makes the rendering of service to those consumers at all prohibitive.

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Q. Now, I believe that you testified that the average outage of the system was of the order of 45 minutes in length. Is that figure constant throughout the system or, here again, is there a difference between the eastern section and Cleveland proper? A. There is such a difference. Within the city of Cleveland, or more properly within the area described on the map as Cleveland and suburbs, the average duration

of outage suffered by this customer who experiences an outage of once in 19 years, that duration is 39 minutes, based on 1508
the experience of the Company as of the year 1938.

In other portions of the system described as the three eastern counties of the system, the corresponding duration of outage which there is experienced once in eight months, is 47 minutes. The composite average for the entire system then made up of the section described as Cleveland and suburbs, and the three eastern counties, becomes a 44.85 minutes to which I have been referring as 45 minutes.

Q. When did you last experience a shut-down in your main transmission system? A. A complete shut-down at the main transmission system as it exists today has never 1509
occurred, yet in the period substantially before the system had reached its present state of development and size there was a complete curtailment of service due to shut-down of the main transmission system occasioned by the failure, electrical failure, in the Lake Shore switch house.

This occurred more than 16 years ago, June 22, 1924, and resulted from a short circuit on a feeder bus in switch station "A" at the Lake Shore plant. This was, however, prior to the construction of the Avon and Ashtabula plants,

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prior to the completion of the interconnecting high voltage transmission system, and it may reasonably be concluded that under the present plan of design and operation as an

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interconnected system of several power plants, such a complete failure could not again occur.

Q. I suppose it is obvious that trouble occurring from time to time on portions of the transmission line do not cause interruptions of service. Is that a correct statement?

1511 A. Yes. Under the principles of design which I have described whereunder, for example, a continuity of service is not impaired in the event of the loss, for example, of one transmission line, one generator in a power plant, one boiler in a power plant, there may and there have occurred major interruptions of the service of units of equipment without there occurring corresponding loss in service to any customer.

For example, in the last 16 years there have occurred 247 cases of trouble on the Company's circuits, which have been of such severity as to justify special reports and analy-

1512 ses by the electrical department of the company. Analysis of these reports indicates that more than half of these major losses of equipment have caused no interruptions to the transmission or distribution of power resulting in service outage to any consumers. The remainder of these interruptions have caused the outage of certain service areas.

Analysis of the statistics which I have recited in the duration of outage by cause, and analysis further recognizing the frequency with which such outage occurs per year, reveals that the average annual outage per customer from

causes over which the Company assumes responsibility, is

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8.54 minutes. That is, although the individual outages of service on the system have a duration of about 45 minutes, the frequency with which they occur is such that the average outage experienced per customer is but 8.54 minutes per year.

Here, again, the duration of such outage in the several parts of the system is not identical. In the portion of the area described as Cleveland and suburbs, the average duration of outage per customer per year is but 2.17 minutes. 1514
That is a customer in the area experiences an outage of but once in 19 years. The duration of such outage is 39 minutes, so that the average customer outage per year is but 2.1 minutes.

In the territory described as the eastern three counties, however, where the frequency of outage is once in eight months, and where the duration of that outage is 47 minutes, the average outage experienced per customer per year becomes 73.94 minutes, or substantially 74 minutes. The make-up, or better perhaps the segregation of this outage into the 1515
time by causes, shows that within the Cleveland area described as Cleveland and suburbs, the aggregate outage of 2.17 minutes is caused by an outage of .14 minutes per year per customer due to the failure of the sub-station supply, itself. Of the total time 1.87 minutes is caused by failure of the feeder or the primary system between the sub-station and the consumer.

The third portion of the total outage is due to failure of

—829—

the transformer, itself, and is responsible for .15 minutes of outage per year.

The fourth category, miscellaneous, is responsible for .01 minutes per year.

The corresponding figures for the three counties comprising the eastern portion of the system, reveal the effect I have described of the susceptibility of overhead transmission and distribution to outage caused by lightning and windstorm. For example, the average customer in this territory suffers
1517 an outage due to failure of the sub-station or its supply, which amounts to 15.59 minutes per year.

This is in large measure caused by storm damage to the 33,000 volt sub-transmission system supplying the sub-stations in the area.

The second cause of outage to such customers—the outage due to the distribution primary feeders—amounts to 58 minutes per customer per year.

The resulting transformer outage, a third class of failure, is .33 minutes per year, and the miscellaneous group .02.

This summarizes, then, the causes of consumer outage in
1518 the several portions of the system, and the relative effect of each of the several causes.

Q. I believe you spoke yesterday about an interruption to your 132 kv. line, due to the dynamiting of a tower. Have you had other instances of a simliarly unusual nature involving the high line? A. Yes, we have had such. In

spite of the highest standards of design and construction, circumstances arise quite out of control of the Company against which it is virtually powerless to protect itself in insuring continuity of supply to its consumers.

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For example, the high voltage transmission system, intercomnecting the main power plants of the Company, had a major interruption of service at a point shown on the map as Northfield switching station designated by the symbol NF in the southern portion in the Cleveland and suburban area.

Q. This is Exhibit No. 21? A. Yes, Exhibit 21.

In 1928, when this line was a single tower two-circuit line, an airplane making a forced landing crashed into the two transmission lines at this point and severed both of the lower or "C"-phase wires.

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This, of course, interrupted service on the line and at the time, the Ashtabula plant was not yet built and substantially all of the eastern portion of the system depended on the flow of energy through either this 132,000 volt transmission system or a 33,000 volt connection at Sanborn Station designated SN in the vicinity of Ashtabula.

The outage occurred at 2:41 in the afternoon. Service was able to be restored fifteen minutes later at 2:56 by

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switching the load which had normally been carried on the 132 kv. system to the 33 kv. system through another path. The accident occurred on Sunday afternoon, when load conditions were light, although traffic conditions in the vicinity of the failure and the presence of a traction line and another 33,000 volt line belonging to the traction company, rather complicated the maintenance operation.

By emergency repairs making a single circuit out of the two circuits remaining by the use of certain of the "B"-phase wires as jumpers, service was temporarily restored on

1522 the transmission system at 8:43 that night and normal service restored the next day.

Q. In that same area you now have a double steel tower four-circuit line? A. Yes, as a result of load growth in the area, as a result of the construction of the Ashtabula plant and the interconnection of the plants to a single system, those facilities have been increased from two circuits to four circuits.

1523 Q. What are the Company's standards of frequency control? A. I have mentioned that in addition to the continuity of supply, the quality of that supply is an important criterion as to the adequacy of service.

One of the characteristics which may be described as the quality of the electric current is the constancy of the fre-

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quency. Maintenance of standard frequency is a desirable characteristic on a system such as this in order that the time control of electric clocks, for example, may be reasonably exact.

1524 If the frequency of the system which results from the generators operating at a higher than their standard speed, if that frequency is too high the clocks run too fast and gain time.

Similarly, if the frequency is too low, resulting from generators operating too slowly, the frequency is low and the clocks lose time.

In industrial plants, where precise speed control of motors is important, high frequency results in an excessive speed and correspondingly low frequency results in low speed. In certain textile operations such as the spinning of

rayon yarn, speed control becomes extremely important because fluctuations in frequency will result in variations in the diameter of the fiber or filament making up the rayon thread and correspondingly imperfect product.

Deviation of frequency from standard is measured by comparison between an electric clock operated from the system and a precision type of pendulum or other mechanical clock dissociated from the electrical system.

It is, of course, a characteristic of alternating current electric service that the frequency is absolutely the same 1526

throughout an entire interconnected system, or throughout any area in which a single frequency is imposed on the interconnected system.

Therefore, an instrument may be located at any point within the entire system to indicate the frequency at all points on the system.

The Company, in the main load dispatcher's central office, maintains precision instruments to indicate and record momentary deviations of frequency from standard and the 1527 accumulated or integrated deviation of frequency from standard. Under the standards of frequency adhered to by this Company, a frequency of sixty cycles is maintained with such precision that the normal allowable deviation of electric time from standard time does not exceed three seconds at any time.

The control of this frequency, when the system is operating apart from interconnections with any other utilities, is obtained by control of the speed of the generating equipment. In the event the system is operating as it customarily does

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interconnected with the electric system of an adjoining utility, then the frequency of the Cleveland Electric Illuminating Company system is precisely the frequency of the entire interconnected system to which it is connected.

Q. What are your standards of voltage control? A. The other characteristics of the quality of electric service is the constancy of voltage, and here deviations at different points

—834—

on the system are quite within the control of the Company
1529 in its design and operation.

The Company in the service of residential and small consumers supplied from an overhead or underground primary distribution system, employs two classes of feeders, so-called light feeders and so-called power feeders.

Light feeders are in general regulated as to voltage, particularly in urban areas, and the voltage is so maintained at the consumer's premises as to be within the standard deviation of plus or minus three volts from the design standard of 115.

In the case of urban areas where distances traversed are
1530 greater and where other conditions make such close regulation not feasible, the voltage standard for light feeders is plus or minus five volts from the standard of 115.

In the service of power customers fed from the primary distribution system, there are two classes of power feeders —a first class of regulated power feeders, those which have in addition to power loads a substantial percentage of lighting load thereon. These in general are in urban areas, are regulated and have a frequency maintained thereon of plus or minus three volts from standard.

There are in addition, certain other regulated power feeders in which the load is primarily power, which, if they were not regulated, would have a voltage deviation from standard which was excessive, and these have regulation

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within the limits of plus or minus five volts from a nominal standard of 115.

The manifestations of poor voltage on light feeders are dimming of lights or lack of constant lighting intensity, and in the case of certain appliances such as the electric range, 1532 inadequate voltage or low voltage results in unsatisfactory performance in the form of slow operation or slow cooking.

Q. How is the voltage control maintained? A. This close maintenance of voltage control on the primary distribution of the system is largely obtained through the use of so-called induction regulators at the sub-stations, which insure through the necessary wiring circuits and other control relays and equipment, that the voltage at the consumer's premises will be able to be maintained within the limits of design established.

These, in the case of lighting feeders, are single-phase 1533 regulators, but in the case of power feeders are three-phase regulators.

There is, likewise, some voltage control realized through regulation of voltages at power plants, but in general this is an operating expediency of the Company and does not result in control of voltage at the consumer to the extent that sub-station feeder regulators do result in such voltage.

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In those cases in which the Company seeks to check the effectiveness of the means employed for regulation of volt-

age, graphic or curve drawing voltmeters are installed on consumer's premises for a sufficient time to experience all of the conditions of load and based on the records revealed by such charts of curves drawn, conclusions may be reached as to the adequacy of the Company's facilities for maintaining the standards of service desired.

Q. Is it your experience that the public is prepared and does assist you in locating causes of trouble? A. Yes, the standards of service, to which I have testified, are in sub-
1535 stantial measure made possible only by the prompt and willing cooperation on the part of the consumers to report cases of trouble and otherwise to assist the Company in locating trouble.

As I have mentioned in my previous testimony, the number of calls received from customers is very substantial, requiring, in times of major system trouble, very substantial telephone facilities.

For example, in the Company's private telephone exchange, there are forty-seven incoming trunk lines handling more than two million telephone calls per year. Special
1536 lines are assigned and provide for the use of employees when reporting accidents involving personal injury or for other emergency communications.

The Company operates a teletype system, for example, between the main office in Cleveland and branch offices in certain of the cities in the eastern portion of the territory, for example, referring to Exhibit Number 21, to Mentor, Geneva, Ashtabula and Conneaut.

Q. How long does it take one of your trouble crews to clear a reported case of trouble? A. Nine out of ten calls

received by the Company reporting service outage on the part of a customer, are calls which grow out of causes over which the Company has no control. That is, they are customer-caused outage. The other ten per cent. of the calls are company-caused outage, or outage over which at least the Company has responsibility, and it is this latter class to which I have testified as to the frequency and duration.

The 90 per cent. of the calls then reporting no service arising out of trouble on consumer's premises, are handled by the Company and the service restored in an average time 1538 of twenty-five minutes.

The number of such calls is about one hundred thousand per year, so that the average customer suffers an outage from causes over which he supposedly has control at the rate of about once each three years, the duration of which outage is about twenty-five minutes, or the average outage per cus-

—838—

tomer from his own causes is about eight minutes per year.

Q. So that your control crew, your trouble crew, clears the difficulty on the average in twenty-five minutes in those 1539 instances? A. That is correct.

Q. Now, you spoke of the major difficulties in operation of transmission and distribution lines which are overhead. Do similar difficulties arise in the operation of the underground system? A. Yes, there are difficulties similar in character and in some cases similar in severity, but fortunately not with the same frequency.

For example, in the direct current, underground system supplying downtown Cleveland, fire occurred due to a short circuit in certain direct current feeders near the Bolivar

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Road Sub-station in 1931, which spread for three city blocks before it could be brought under control.

This point is right at the center of Cleveland, in the vicinity of the sub-station whose symbol is BV. A feeder went out of service early in the morning before 6:00 o'clock when a comparatively small number of men were on duty as a result of a short circuit.

Soon thereafter, the trouble spread and became one of major intensity and as soon as men could be called from
1541 home, one hundred maintenance men were dispatched to the job, about half of whom were working on cables and about

half of whom were required in the manholes.

Three manhole covers were blown off by the explosion following the fire. Two more were required to be removed because of smoke conditions.

The Cleveland fire department used and recharged a chemical wagon three times in an effort to extinguish the fire. The Company used its own fire-fighting equipment and
1542 water-lines were finally turned into the manholes.

The problem was then to clear the resulting damage which had resulted from the fusing of these cables from the very intensive short circuits. These had to be removed in solid blocks of fused copper, cut with acetylene torches. Temporary facilities were required to be laid on the surface of the ground by-passing the damaged sections to temporarily relieve the situation, and it was several days later before final restoration of the equipment in its normal condition was accomplished by pulling new cables through the ducts.

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More than eight thousand feet of 1,000,000 circular mil cable were required to be replaced, and it was by virtue of a solidly interconnected network or grid system in the underground areas for the direct current distribution that service continuity was able to be maintained at a reasonable level and the inconvenience from the disturbance minimized.

Q. You have spoken of periodic meter testing as one

instance of maintaining reliability of service. Are the meters retained on customer's premises at all times, even when the 1544
premises are unoccupied? A. Except under unusual circumstances, yes. In certain areas of the city property in vacant premises is not very well able to be protected and in certain of those extreme cases meters are required to be removed because they are stolen from vacant premises.

Fortunately, those areas are small, however, and in the aggregate for residential consumers the distribution meters are left on the premises so that the owner may, in the event the premises are to be rented, use lights at night in showing the property to prospective tenants.

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In commercial installations, meters are habitually removed on the moving of the tenant.

Q. In addition to the line patrol services and trouble repair services as to which you have testified, are there other precautions which are taken by the Company to insure continuity and reliability of service? A. Yes, to summarize all of these precautions required to insure dependable supply, in addition to those that I have mentioned, there are installed operating procedures designed to quickly detect any electrical disturbances which may affect service, prompt

means employed to dispatch equipment and men to the scene of disturbances, to investigate outages or interrup-

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tions, to do the things which I have described as being required to promptly restore normal service, provide in the design of the system facilities to transfer load and transfer supply lines from one source to another, and in addition, to make convenient and readily available to the consumer what information he requires in billing, in service application
1547 needs and the other manifestations of adequate service to which we feel he is entitled and which he, himself, requests.

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Q. Will you explain the Company's record as to system loss? A. It is a characteristic of electrical circuits, of course, that energy is not transported at 100 per cent efficiency. That is, there is loss. System efficiency may be defined as the ratio between the energy distributed to the ultimate consumers divided by the energy output from the generating plants.

The difference in the amount of such energy delivered
1548 from the system and supplied to the system is largely electrical losses. Correction must be made for the amount which has been used by the Company in its own operations and this is usually taken into account.

The percentage of such losses is a guide to designers and in less measure to the operators of the system in determining the effectiveness with which the system has been designed and built and with which it is operated.

Q. Specifically, what is your record on system losses? A. As of 1939, the percentage loss on the Cleveland Electric Illuminating Company system was 11.67 per cent, and over the last nineteen years—the period 1921 to 1939, inclusive—

this loss has averaged almost exactly that figure or 11¾ per cent.

A maximum loss, percentagewise, occurred in 1935 when the percentage of loss rose to 12.65 per cent., and the mini-

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mum loss percentagewise occurred in 1927 when the percentage of loss was 10.98.

The high loss of 12.65 per cent. in 1935 resulted not so much from the losses having increased on the system per se, but rather that the output from the system had so been re- 1550 duced by business conditions as to make the ratio between the losses and the total input or output high.

Q. So that during this entire period, despite a substantial increase in territory served, the percentage loss has remained fairly constant, is that correct? A. Yes, it has. The effects are in some measure compensating. That is, as the territory served has increased, and the number of lines and transformers which might cause loss have increased, the volume of business has similarly increased, and the relationship between the loss and the total input to the system has remained substantially constant. 1551

Q. Where did the major portion of losses occur—in what phase of the system operation? A. The losses on the system may be classified as occurring in the transmission system, which losses are in the transformers and the lines associated with the hundred and thirty-two and sixty-six thousand volt transmission system, also in the thirty-three and eleven thousand volt lines supplying distribution sub-stations.

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The second class of loss is the conversion loss which occurs in motor generator sets or rotary converters and associated equipment at direct current distribution sub-stations.

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A third class of loss is the transformation loss which occurs at step-down transformer banks at distribution sub-stations for alternating current output; and a fourth category is that of distribution loss which occurs in the distribution lines, regulators, transformers, serving the distribution system from the sub-station to the consumer.

Q. And in what phases among those you mentioned are the losses heaviest? A. The major portion of the over-all system loss occurs in the main transmission system, where,
1553 as of 1939, 4.37 per cent. of all the output of the power plants of the company was absorbed as transmission loss.

Related, however, to the amount of energy put into a particular branch of the Company's system, the conversion loss at direct current sub-stations is percentagewise the greatest.

Q. That loss is experienced in the conversion of alternating current to direct current, is that right? A. That is right, and last year such loss reached 9.73 per cent. Because, however, relatively a small amount of the company's total energy is converted to direct current, the percentage of the total
1554 over-all system input which was loss in conversion, was but .87 per cent. Transformation loss was .93 per cent., and the

distribution loss from all causes, 5.50 per cent.

Q. What has the Company's record been in reduction of electric operating expense? A. In the history of the operations of the Company, the trend in electric operating expense per kilowatt hour sold has been steadily downward, culminating in a value reached in 1939 of less than seven mills——

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Mr. Buswell: I didn't hear the last part of that. Would you read that answer again?

Mr. Hamilton: Read it back, please.

(Whereupon the answer above recorded was read by the reporter.)

The Witness: (Continuing)—per kilowatt hour.

Mr. Buswell: Thank you.

The Witness: That was lower than for any year in the Company's history.

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Mr. Hamilton: May this document be marked as Respondents' Exhibit No. 24 for identification?

The Examiner: Yes.

(The document referred to was marked for identification as Respondents' Exhibit No. 24.)

By Mr. Hamilton:

Q. Will you explain, Mr. Lindseth, what Respondents' Exhibit No. 24 for identification portrays? A. This curve

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sheet, in the curve at the top, shows the electric revenue 1557
received by the Company per kilowatt hour sold as an overall average for all energy. In the curve below it, the solid line, there is shown the trend in total electric operating expenses per kilowatt hour sold, over the same period from 1921 to 1939.

Total electric operating expenses include all expenses for production——

Q. (Interposing) If you will, just identify the other two lines. A. Very good. The next curve shown as a dash line, bearing the legend "other electric operating expenses per

kilowatt hour sold" and the fourth curve—the dotted curve at the bottom of the sheet—shows the electric production expense per kilowatt hour sold.

Q. This chart or diagram has been prepared under your supervision? A. Yes, it has.

Q. The facts shown are taken from the records of the company? A. Yes, they are. From the statistical department records.

Mr. Hamilton: I offer it in evidence as Respond-
1559 ents' Exhibit No. 24.

Mr. Buswell: No objection.

The Examiner: It is admitted in evidence under the number mentioned.

(The document referred to was received in evidence as Respondents' Exhibit No. 24.)

By Mr. Hamilton:

Q. Now, Mr. Lindseth, the second curve on the map which you have referred to—on the diagram, rather—is stated to
1560 be total electric operating expenses before deferred up-keep and taxes, is that correct? A. As the caption, the curve sheet specifically limits the data, the electric operating expenses are before deferred up-keep and taxes.

Q. And that curve to which I have referred is the composite, is it not, of the two curves shown immediately below it? A. Yes. It is the arithmetic sum of each of the two components of total cost, the lower one being the production expense at the powerhouses for the generation of the energy; the second curve "other expense" being all other expense incurred by the Company in distribution, transmission, main-

tenance, commercial expense, administrative expense, and other similar elements.

Q. And there are similarly excluded from other electric operating expenses, as shown, and electric production expense as shown, items of deferred up-keep and taxes for the

—848—

period? A. They are excluded. Reference to these curves will show that the long-time trend in the expense for electric production, the dotted curve near the bottom of the sheet, has shown a marked decline from 1921 to 1939. The value 1562 of production expense in 1921 was 7.3 mills per kilowatt hour. The corresponding figure in 1939 was 2.6 mills per kilowatt hour. The lowest value experienced, however, during this nineteen year period was reached in 1933, when the production expense reached a low of 2.6 mills which was the lowest cost at which energy has ever been produced on a yearly average basis in the history of the Company.

This was realized as a result of quite low cost of coal, during which year the average cost of coal for electric and steam-heating was $2.41 per ton. The corresponding cost in 1939 of fuel was $3.06 per ton. 1563

Q. In general, what items enter into the determination of electric production expense? A. Electric production expense, which is the cost of operation at the power-houses of the Company, includes as the major element the cost of fuel, itself. Added to the fuel expense, there is, however, the labor of attendance at power plants, the maintenance of power plants, supervision of power plants, the handling of coal and the unloading thereof, the services of watchmen and electrical operators at the power plants.

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Q. And in general, what are the components entering into a determination of other electric operating expenses as shown on the chart? A. Other electric operating expense includes all other elements of the Company's expense and includes the transmission line operation and maintenance, sub-station operation and maintenance, the distribution system operation and maintenance, utilization equipment, largely street lighting, operation and maintenance, and a minor element of undistributed expense.

1565 To these specific expense items there are added the administrative expense, commercial and business promotion expense, injuries and damages to workmen and certain undistributed expense, injuries and damages to workmen and certain undistributed expenses such as insurance, uncollectable accounts, the cost of public regulation as charges to the Public Utilities Commission, and these, in the aggregate are electric operating expenses exclusive of production.

The Examiner: Referring to this chart, Respondents' Exhibit 24, as to electric production expense by

1566 1939, wasn't that as low as it was in 1933? These lines seem to indicate that.

The Witness: Within the ability to portray the facts on the chart, that observation is correct. Each of the charges was 2.6 mills per kilowatt hour, but in one case it was 2.63 mills, and in the other case 2.56

mills, so it is a hairline difference.

The Examiner: I wanted to get the figures on it.

The Witness: Yes.

By Mr. Hamilton:

Q. In which case was it lower? A. In 1933, the production expense reached the all-time low value of 2.56 mills per kilowatt hour. The corresponding figure in 1939 was 2.63 mills.

Q. Has the reduction in production expense over the period shown been due in part to obtaining a higher efficiency from fuel? A. In substantial measure the reduction in production expense has resulted from an improvement in fuel economy or in fuel consumption per kilowatt hour sold. 1568
Over the period from 1921 to 1939, there has been a marked reduction in the price of coal per ton. The value or the cost per ton of coal in 1921 was $4.77, an effect of the post-war inflation of prices which had reached a maximum in 1920, during which coal costs had risen to $5.77 average.

By 1923, the price of coal had already declined to less than $4.00, and by 1928, had declined to $3.08 per ton which was substantially the cost experienced in 1939 when the average price was $3.06.

It may then be said that the effect, as between 1921 and 1569
—851—
1928, was made up not only of an improvement in fuel economy per kilowatt hour, but likewise resulted from a reduction in the price of coal per ton, but since 1928, the over-all reduction in the eleven year period, as between 3.3 mills in 1928 and 2.6 mills in 1939, this reduction has resulted entirely from improvement in the economy of operation of the system.

The over-all pattern here has been one of long-range downward trend in total operating expenses per kilowatt

hour. However, marginal economics enters the picture here, and the opportunities for further reduction in production expense are limited by marginal opportunities to reduce the fuel required per kilowatt hour, and it is noted that the long-range trend in other operating expense per kilowatt hour is —with the exception of a high point during the depression, when the output was low—substantially a horizontal trend at about four mills per kilowatt hour.

This item of total expense, other operating expense per
1571 kilowatt hour sold, reached a value of 3.96 mills per kilowatt hour in 1939, which was the lowest value experienced during the period 1921 to 1939, although it was equalled in 1925 when the value was the same—3.96 mills.

The aggregate of the two, however, which makes up total electric operating expenses per kilowatt hour, is at an all time low as of 1939, having reached 6.9 mills. This was the

first year in the history of the operation of the company, when the total operating expense per kilowatt hour sold had dropped below seven mills.

1572 Q. What was the figure on—the precise figure—on electric revenue per k. w. h. for 1939? A. The electric revenue per kilowatt hour sold in 1939 was 1.768 cents per kilowatt hour. This is identical with the average revenue per kilowatt hour experienced in 1936. Within the period covered by the curve, namely from 1921 to 1939, the trend in average revenue in the long range has been downward. It was interrupted during the period of the depression in the early thirties, by virtue of the fact that industrial consumers, by using less of energy in relation to the whole, had the effect of showing an apparent increase in over-all figures, even though certain

classes of business, such as residential, showed a continuous and unbroken decline.

During periods of low industrial activity, when the percentage of the total output of the company, which goes to low revenue customers, is reduced, then the weighted average revenue per kilowatt hour goes up.

Similarly in 1938, when industrial activity was substantially curtailed in the Cleveland district, the electric revenue per kilowatt hour sold shows an increase because of the decreased influence of the large industrial users. 1574

Q. How many pounds of coal is required to produce a

kilowatt hour of energy in your own system? A. As of 1920, the fuel economy of the system, when measured in terms of B. t. u. per kilowatt hour generated, was at the rate of 28,000 B. t. u. per kilowatt hour. Since that time there has been a steady and substantially unbroken decline to a value of 14,700 as of 1939, and the corresponding quantities of coal required per kilowatt hour were about two and one quarter pounds of coal per kilowatt hour—the early point, 1920—as compared with one and one-fifth pounds of coal per kilo- 1575 watt hour as of 1939.

Q. Actually, the significant factor is the B. t. u. rather than the pounds of coal, is it not? A. Yes; for more precise measurement of performance, the B. t. u. per kilowatt hour is to be preferred because the heat content of coal fluctuates over wide limits and the unit is not as precise when expressed in pounds of coal per kilowatt hour.

Q. Turning now to the Company's promotional policies, would you state the functions of your sales program?

1576 *Elmer L. Lindseth—By Respondents—Direct*

Mr. Binford: Mr. Examiner, I don't believe the witness has been qualified except as a technical advisor to the president, nor has he stated that he has any familiarity with the sales activities of the Company. If such question is asked, I object to the question.

Mr. Hamilton: I think, Mr. Examiner, if you will refer to the transcript, you will find that his qualifi-

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1577 cations cover this aspect.

Mr. Binford: If he can state now that he is familiar with those activities from his own knowledge, I withdraw the objection.

(Discussion off the record.)

The Examiner: I understand counsel for the Commission has withdrawn his objection and you may proceed, Mr. Hamilton.

Mr. Hamilton: Would you read back the pending question?

1578 (Whereupon, the pending question was read by the reporter.)

The Witness: The sales program of the company has essentially two functions:

One, the promotion or building of load, increase of consumption among consumers; second, the furnishing of sales service to consumers in the matter of adequate information on opportunities for the use of electric service and other similar information.

By Mr. Hamilton:

Q. You merchandise appliances yourself? A. No, the company does no merchandising of appliances. Never in the history of the company has the company, itself, in its promotional program, accomplished these ends by the actual selling of equipment, appliances or apparatus to its consumers.

Throughout this history, it has accomplished its ends in

increasing the distribution of load-consuming devices, appli- 1580
ances, lighting equipment, and other facilities for the use of current, through cooperation with dealers, distributors, manufacturers, retailers, and other outlets.

This program has been followed by the Company with the distinct feeling that by such energetic cooperation and fostering of sale by others, the ends may be effectively achieved. The company has thus obviated competition between itself and its customers, there referring to its customers as retailers and sellers of electrical appliances, who are engaged in other branches of the electrical industry, and the company has enlisted the cooperation of hundreds of 1581
concerns in the electrical trade, bringing together their resources for the cooperative promotion of electrical appliances, domestic, commercial, industrial, institutional, and all other classes.

Q. Now, is one of the objectives in the sales program to assist the consumer in obtaining the greatest possible value from the electrical service? A. This is one of the functions of the service phases of the company's sales program. For example, without adequate education of the consumer of the opportunities afforded to use electricity and the numerous

1582 *Elmer L. Lindseth—By Respondents—Direct*

labor-saving electrical appliances and devices, the maximum opportunities for promotion are not realized.

Electrical education then constitutes an important part

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of the company's sales service functions. It calls for highly specialized services in certain cases, such as in industrial activities where the services of highly skilled technicians may be required in matters of electric furnaces or heat-treating, specialized motor applications.

1583 It requires the services of lighting specialists, illumination engineers, in providing proper lighting in school rooms, offices and th like. It calls for assistance to residential consumers in educating them in matters of home lighting, home economics, domestic cooking and similar efforts. These service activities are offered by the company to the consumers without charge, and the company regards provision of such services as a fundamental and essential part of the complete electric utility service to the consumers.

As a result of a rather long history of such sales service to consumers, they have come to expect such sales service as

1584 a natural component of the utility service which the company provides, and they have come to expect it as a natural component of the service of the company.

Architects, engineers, business men, in the planning and purchasing of electrical equipment, frequently call on the company for service of this character, and such service is freely rendered by the company. The high degree of electrical development in the territory exists, we think, in substantial measure as a result of such service provided by the company, and the confidence resulting therefrom on the part of

—857—

the consumers.

1585

Q. How extensive in size and scope is your sales program? A. The sales program last year—and it was not an extraordinary year—required $735,000.00 of expense. There were 165 men in the program in the sales department. All divisions of the company's promotional efforts were represented, and this effort is the sales department alone without the corresponding expenditures and personnel required in the advertising department.

The sales department comprises a number of specialized divisions and operators, the company's vice president in 1586
charge of sales. The advertising activities of the company are under an assistant to the president, who is in charge of advertising and product of publicity and his staff is independent from the staff of the sales department although working very closely with it.

Under the vice president in charge of sales there is a power division with a supervisor and fifteen employees; a retail commercial division, embracing a supervisor and twenty-three employees; a residential division, made up of four branches with seven supervisors acting under a director of residential sales, and with a personnel of sixty-nine em- 1587
ployees under these supervisors.

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Other divisions of the Company are the street lighting division with a supervisor and two employees, a research promotion division, a supervisor and three employees, an office division and a separate division operating in the three counties shown at the eastern portion of the system in Exhibit 21 under a supervisor with fourteen employees.

In addition to these, there is a substantial personnel at the Electrical League, which is a cooperative effort of the

1588 *Elmer L. Lindseth—By Respondents—Direct*

company and which I will describe in some detail later, the staff of which consists of the President of the League and twelve other employees.

Q. What proportion of the efforts or expense of the sales program is devoted to residential consumers? A. Of the divisions which I have described as the residential division, comprising merchandise promotion, home service, home lighting, and the Electric Home Bureau, these under the director of residential sales, are responsible for the expenditure of
1589 about 70 per cent. of the total sales expense, and this domestic sales division and the sales promotion division are the largest of the divisions in the Company's sales program.

The residential sales program of the Company must, in large part, bear the burden of pioneering electrical appliances. Merchants, by and large, are neither willing nor in the usual case are they economically able to pioneer the sale

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of load-building devices.

In the early stages of development of markets, even for appliances which are usually thought of as highly necessary
1590 to modern convenience in the home, the Company has had to bear the burden of that early promotion.

For example, fifteen years ago, when the electrical refrigerator in the home was not at all an accepted appliance, it devolved upon the Company to do the advertising, encourage the dealers and distributors to offer the appliance, display it on their floors, and to train salesmen who might get the sales story across to the ultimate consumers.

Similarly, in recent years, the electric range, before it became an accepted product and in demand by the public, had to rely for its promotion on the efforts of the Company,

so in the early stages of virtually all load building appliances, the Company bears the burden of the promotion.'

Q. What were the first steps in this program of sales promotion? A Are you speaking now of residential promotion?

Q. Residential. A. The early efforts of the Company in residential sales promotion centered almost exclusively around lighting. In the period from 1910 to 1921—a period in which the number of customers of the Company was growing very rapidly—and during that period the number of cus- 1592
tomers increased from 30,000 to 180,000—an increase of six

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times. Those customers were acquired largely as a result of effort on the part of the Company to encourage the wiring of homes formerly lighted by gas, to encourage the adequate wiring of new houses, but in very substantial measure the substitution of electric lighting fixtures for gas lighting fixtures, appliances were almost non-existent prior to 1921, although there were a few electrical merchandise stores and electrical contractors who offered washing machines, vacuum 1593
cleaners, both of which began to appear about 1915, and the electric iron.

The early efforts then were, substantially all of them, efforts to sell the idea of electric lighting. By 1921, a survey of results showed that the average six-room house had but twenty-one outlets therein. These outlets were, virtually all of them for lighting, consisted mostly of ceiling and wall fixtures with only possibly a single base plug outlet in the living room for a decorative lamp.

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Light, as a tool for seeing, hadn't yet been developed at all. During the next period, however, from 1921 to 1933, very special attention was given by the Company to educate the public in the requirements of adequate light and the effort was largely devoted to the encouragement of increasing the number of lighting outlets in the home.

During this period electrical homes were opened for exhibition in the city, and three such homes were opened in

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1595 1921, but in the next two years, sixty-six additional homes were opened to the public.

This effort has continued during the past twenty years, to serve to educate the public in the adequacy of lighting and the opportunities for lighting as an instrumentality to seeing. The greatest increase resulting from this effort in the number of outlets in new homes took place just prior to 1923, when the increase over the 1921 level had been more than 200 per cent. and the recent statistics indicate an average number of outlets per home of sixty-four.

1596 During this period, many hundreds of such electrical homes have been exhibited and in these homes not only has lighting been promoted, but appliances as well.

The Examiner: Let us recess at this point until 2:00 o'clock.

(Whereupon, at 12:30 o'clock p. m., the hearing was recessed until 2:00 o'clock p. m. the same day.)

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AFTERNOON SESSION

The Examiner: You may proceed, gentlemen.

Whereupon, ELMER L. LINDSETH resumed the stand and testified further as follows:

Direct Examination by Mr. Hamilton (Continued):

Mr. Hamilton: May this document be marked as Respondents' Exhibit No. 25 for identification? 1598

The Examiner: All right, let it be so marked.

(Exhibit 25 for identification on behalf of Respondent, marked.)

By Mr. Hamilton:

Q. Will you explain what Respondents' Exhibit 25 for identification portrays? A. This exhibits shows for the Cleveland Electric Illuminating Company the residential revenue per kilowatt hour sold from 1905 to 1939, inclusive, and the average annual use per residential consumer in kilowatt hours per year from 1910 to 1939, inclusive. 1599

Q. This chart was prepared under your supervision? A. Yes, it was.

Q. The facts shown are taken from the records of the Company? A. Yes, from the statistical department records.

Mr. Hamilton: I offer it in evidence as Exhibit 25.

Mr. Binford: No objection.

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The Examiner: All right. It is received under the number assigned it.

1600 *Elmer L. Lindseth—By Respondents—Direct*

(Respondents' Exhibit 25 for identification received in evidence and so marked.)

Mr. Hamilton: May this document be marked as Respondents' Exhibit No. 26?

The Examiner: That may be done.

(Respondents' Exhibit 26 marked for identification.)

1601 *By Mr. Hamilton:*

Q. Will you explain what Respondents' Exhibit 26 for identification portrays? A. This chart shows the revenue received from general commercial customers per kilowatt hour sold for the period from 1912 to 1939, inclusive, and the average annual use per general commercial consumer expressed in kilowatt hours per year for the period 1916 to 1939, inclusive.

Q. This chart similarly has been prepared under your supervision? A. Yes, it has.

Q. The facts shown are taken from the records of the
1602 Company? A. Yes, from the statistical department records.

Mr. Hamilton: I offer it in evidence as Respondent's Exhibit No. 26.

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Mr. Binford: No objection.

The Examiner: It is so admitted in evidence under that number.

(Respondents' Exhibit 26 for identification, received in evidence.)

Mr. Hamilton: May this be marked as Respondents' Exhibit No. 27 for identification?

The Examiner: It may be so marked.

(Respondents' Exhibit 27 marked for identification.)

By Mr. Hamilton:

Q. Mr Lindseth, will you explain what this exhibit portrays? A. This chart shows the large commercial and industrial revenue of the Company per kilowatt hour sold for the period 1914 to 1939 inclusive, and the average annual use per consumer for the large commercial and industrial classes from 1916 to 1939, inclusive. 1604

Q. This exhibit similarly has been prepared under your supervision? A. Yes, it has.

Q. And the facts shown have been taken from the records of the company? A. Yes, from the statistical department records.

Mr. Hamilton: I offer it in evidence as Respondents' Exhibit No. 27.

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Mr. Binford: Mr. Examiner, I believe the expression "large commercial and industrial revenue" should be explained or the chart is unintelligible.

Mr. Hamilton: Will you at this time, Mr. Lindseth, explain the difference in classification between the general commercial revenue shown on Exhibit 26 and large commercial shown on Exhibit 27?

The Witness: Under the definitions prescribed in the Company's rules for rate classifications, general commercial customers and those customers who are

1606 *Colloquy*

billed under the general commercial rate schedules are commercial customers whose demand is less than 20 kilowatts of demand. Large commercial customers are those whose business and needs might be similar to those of a general commercial customer but whose demands exceed 20 kilowatts demand, for which conditions of service there is a different rate schedule available.

1607 Industrial customers differ from larger commercial customers only in respect to size and customers consuming alternating current in excess of 500,000 kilowatt hours per month and meeting certain other requirements of the company's rate schedules having to do with the resale of energy, are classified as industrial customers.

The class of large commercial and industrial then are in accordance with the Company's filed rate schedules as a specific group of customers whose demands exceed 20 kilowatts.

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1608 Mr. Binford: These terms as used in the captions of the two documents last offered are used in the sense in which you have just described them?

The Witness: They are.

Mr. Binford: No objection.

Mr. Hamilton: I had offered this exhibit as No. 27.

The Examiner: All right. This last chart which has been marked for identification is now received in evidence as Respondents' Exhibit No. 27.

1609

(The chart marked Respondents' Exhibit 27 for identification, received in evidence.)

Mr. Hamilton: May this document be marked as Respondents' Exhibit No. 28 for identification?

The Examiner: Yes.

(Respondent's Exhibit No. 28 marked for identification.)

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By Mr. Hamilton:

Q. Will you explain what Respondents' Exhibit No. 28 portrays? A. This shows for the Cleveland Electric Illuminating Company the history of residential electric rates for consumers using 20, 50 and 100 kilowatt hours per month for the period from 1900 to 1940, including a rate reduction made effective on July 7, 1940.

Q. I will ask you later to explain certain features of this

chart. For the moment will you state whether this chart has been prepared under your supervision? A. Yes, it has.

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Q. And the fact shown are taken from the records of the Company? A. They are.

Mr. Hamilton: I offer it in evidence as Respondents' Exhibit No. 28.

The Examiner: Let it come in as Respondents' Exhibit No. 28.

(Respondents' Exhibit 28 for identification received in evidence.)

1612 *Elmer L. Lindseth—By Respondents—Direct*

By Mr. Hamilton:

Q. I will ask you later, Mr. Lindseth, to refer to the specific exhibits for certain information.

Prior to the taking of the recess you were engaged in describing the promotional activities and sales activities of the Company. Could you now state whether there are any other functions of sales promotion other than those you have already described? A. In addition to those which I described as sales service and sales promotion, there is the distinct
1613 requirement of the Company's sales promotion policy that it be directed at holding load already obtained or acquired as well as the building of that and new load. The business of the Company is not without competition from gas, from oil and other industries. For example, the gas refrigerator

is a mechanical refrigerator with which the electric refrigerator must compete. In the replacement of appliances a competitive market exists and it is to insure the continued electric serving of these customers that an important phase
1614 of the company's efforts is directed.

Similarly in commercial and industrial activity there is competitive with the electric furnishing of power that made available through oil engines, for example, and the steam turbine and although load may at the moment be served by the Company, there is the hazard of the loss of that load to competitive power sources, the protection against which is the job of the sales department.

The electric utility business is essentially one of slow turnover, that is there is required a substantial investment when related to the annual gross revenue. For the year

1939, for example, the relationship between the Company's fixed assets and the gross revenue was $4.88 of fixed assets per dollar of gross revenue. For the last five years this ratio has averaged about five. That is, $1.00 invested in the business requires five years of business to be recovered in gross revenue alone.

Such circumstances make it especially important that once load is acquired and the investment made to serve that load, that the load be retained. This requires insuring the complete satisfaction of the customer in regard to durability, 1616
dependability, economy and general satisfaction.

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Q. Is there a so-called Electrical League in Cleveland? A. Because the Company does not and has not merchandised appliances, it has operated through an organization known as the Electrical League of Cleveland which is a cooperative venture between the Company, the dealers, and the distributors of electrical merchandise in the community.

Q. Will you describe further the functions of the Electrical League? A. The League is a corporation not for 1617
profit, incorporated in 1909, and has for its objects, among others, the improvement in the electrical business for the benefit of the citizens of Cleveland.

During the early part of its history its function was largely social among dealers, dealer representatives, distributors, salesmen and others concerned with the distribution of electrical appliances, but there soon developed a definite need for cooperative business efforts, the training of salesmen to better represent their principles in the moving of merchandise and the League expanded its efforts some ten

1618 *Elmer L. Lindseth—By Respondents—Direct*

years after its inauguration in the development of this Cleveland market.

Q. Had you told us how the League is constituted? A. The League membership is made up from dealers, from jobbers, from manufacturers, from representatives of the Cleveland Electric Illuminating Company, and from any others interested in the merchandising and promotion of electrical merchandise and electrical appliances.

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1619 The number of members participating is 322 as of 1940, who have contributed to the League's general fund for promotion and development of the electrical merchandise market. The development which started, and which I mentioned, some ten years after the formation of the League, namely about 1920, proposed to enlarge the possible market for electrical merchandise and to enlighten the public on the subject of electricity.

Following this announced policy in 1920, the size of the League grew rapidly and the number of supporting companies, dealers and others, increased from 132 in 1921 to
1620 185 by 1923, and to the figure I have mentioned, 322, as of the present time. A substantial or the major portion of the League's funds have been used to promote the sale of equipment for the use of electricity in the home, that is residential appliance merchandising, but the League program has also included the promotion of the commercial and industrial uses of energy through the necessary merchandising or commercial and industrial equipment.

Q. Are there other activities which it sponsors? A. Yes, an important additional activity which the Electrical League

sponsors in connection with the industrial and the commercial phases of its activity is the Electrical Maintenance Engineers' Association of Cleveland. This is an organization of engineers employed by the industrials in the community who are users of electricity and the association has for its object to encourage the development and economical

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application and use of electrical equipment in industry. The group has monthly educational meetings which include inspection trips to manufacturing plants and has a member- 1622
ship of about 750 representatives.

Q. And does this League have a publication of its own? A. The organization I have just described, this Maintenance Engineers' group, is informed, as are the executives of the industrial plants, through the Electrical Production Magazine which has been in circulation since 1927 and has a circulation of about 3,300 per month, the object of which is to inform executives in commercial and industrial enterprises as to the uses of electricity in industry and similar promotional efforts.

Q. It serves a merchandising function then? A. Yes, it 1623
does serve a merchandising function to the extent that it calls to the attention of these commercial and industrial consumers available equipment for the use of electric energy, but it serves a broader function of serving to educate those persons as to economical methods to use existing equipment, new methods by which existing equipment may be used to better advantage, and in general a broad promotional program among industrial consumers.

Q. Do you feel that the activities of the League have been beneficial in promoting increased electrical use? A. Yes.

As may be seen from Exhibit 22, containing certain system growth statistics of the Company, there has been in the

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period from 1910 to 1940 a very striking growth in the Company. The kilowatt hours of output have increased, for example, from some 80,000,000 hours per year in 1910, to 1,800,000,000 by 1939. Such growth is due, of course, to many causes. However, it is felt that important among these causes is the promotional effort given by the Company

1625 through the Electrical League and other activities to the increased use of electric energy.

Q. Does the League sponsor exhibits of various sorts? A. Yes, the League has in the past to a greater extent than recently, met the needs of the community when inadequate displays of appliances were available, by having a so-called exhibit of everything electrical to the home, which was a centralized exhibit in the quarters owned by the Electrical League, or leased by them, in which were displayed appliances and other electrical merchandise on a cooperative basis

1626 by all manufacturers and all dealers and distributors. No merchandise was sold but here was available a centralized showroom in which a prospective purchaser might examine all the available makes of equipment.

By 1935 or thereabouts, electrical merchandising had assumed so important a place in the community that the department stores and certain of the major appliance dealers had actually more appliance display space available to the public than did the Electrical League, and since the Electrical League had thus served its purpose of pioneering the display of equipment and putting it on so substantial a basis

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that it could be taken over by the dealers, that the League

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discontinued its display of merchandise.

Q. Does the Company actually sell appliances, itself? A. No, the Company does not and has not sold appliances.

Q. You merely assist in the sponsorship of this cooperative enterprise, is that right? A. Yes. It still is a distinct obligation of the Company to teach merchandise salesmen how to sell and dealers how to sell and promote their products.

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The big weakness in the distribution of electrical merchandise in the territory of the Company is not the lack of excellent products, neither is it the lack of available service at good rates, but the problem is a problem of inadequate selling. The average appliance salesman is not a good salesman and one of the definite tasks of the Company operating as itself and through the League, is the training of salesmen for these dealers.

Q. You do have a sales division, do you not, in your operating personnel? A. Yes, the efforts which I have described in connection with encouraging the better selling

1629

of appliances, is carried on through a merchandise promotion division of the residential division of the sales department. This merchandise promotion division is of a supervisor with about 12 assistants who are charged with the responsibility of assisting dealers in the attractive display of merchandise, in the training of dealer salesmen, in the running of cam-

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paigns among dealer salesmen to encourage improved results, the stimulating of cooperative advertising by such dealers.

and in general to encourage the better selling on the part of the dealers who merchandise the appliances in the district.

Q. Do you have advisers on home lighting to contact customer outlets and carry on educational programs? A. A very important effort of the Company is that of "Better Light—Better Sight". The Cleveland Company, in its early residential promotion, devoted its efforts almost exclusively to lighting and the importance of the lighting market has not been lost sight of, even in recent years when such very
1631 considerable prominence has been given to electrical appliances in improving the ease and convenience of the home.

The "Better Light—Better Sight" program has been in large measure an educational program to bring to the attention of people the importance of light in seeing. It has, however, had a counterpart in the sale of merchandise through cooperative efforts with dealers, distributors, retailers and others, to encourage the sale of lighting appliances, lamps, student lamps, table lamps, and similar merchandise.

The "Better Light—Better Sight" effort in the educa-
1632 tional aspects of it has been carried on through speakers who have spoken to audiences in the interest of eyesight conservation in the past six years, which audiences have totalled more than a million people in the territory served

by the Company.

In addition to the lighting story there is further additional promotional information furnished on major appliances such as ranges, refrigerators, air conditioning equipment, stokers and other home appliances.

During the last year more than 15,000 people who have been interested in the building or purchasing of new homes have attended a series of meetings to learn more about planning, decorating, equipping and operating an all-electric home.

Q. Have those meetings been sponsored by the Company or by the Electrical League? A. The sponsorship of those meetings is usually by the Electrical League, although the participation of the Company in the activities of the League is well known and although the effort is specifically identified 1634
as a League effort. All persons dealing with the League well realize that the responsibility of the Company is behind the effort.

Q. Is the same comment applicable to the "Better Light—Better Sight" program you spoke of? A. Yes, the same comments are applicable.

Q. Now, what have been the results of these promotional policies on use of appliances in your territory? A. In the matter of lighting, for example, about which I have just spoken, as a result of the "Better Light—Better Sight" program and in addition through the activity of the Home 1635

Lighting Advisers who have visited in the homes of the community to encourage the use of lighting and to educate the consumers in the advantages of adequate lighting, there have been added in the connected load of the Company in five years more than 53,000 kilowatts of lighting.

Q. Which five years are these? A. These are the five years from September 1935 when the effort of Home Lighting Advisers in visiting the homes was begun, until June of 1940.

The program followed by these Home Lighting Advisers which began five years ago and who now number 40, is a program of direct visitation to the home, the testing of the efficiency and the adequacy of the lighting as furnished by the fixtures in the home, survey of available lighting intensity and lighting outlets, and recommended improved methods of lighting to the householder.

This has been a very popular phase of the Electrical League's activity. It has been one which has been requested
1637 on the part of a large number of home owners who have heard about the service rendered to others and have asked to have their own homes surveyed. It has resulted in vastly improved lighting, especially for school children, for home lighting has now been demonstrated to be a very effective tool in quick learning and rapid progress.

The number of Home Lighting Advisers now serving the Electrical League is 40. The number has been as great as 60 in 1937. At the beginning of the program in 1935, how-

ever, I believe the effort started with about 20. The number
1638 of homes that have been visited is 225,000 since the inauguration of the program and the total number of visits by Home Lighting Advisers has been 312,000. That is 87,000 of these homes that have been surveyed at sometime in the past have been resurveyed with a second visit from the Home Lighting Adviser.

The effectiveness of the program may be gathered from the results found in the kitchen, for example, where considerable importance should be given to adequate lighting because it is the room in the average home where the housewife spends a considerable amount of time and where lighting without

careful attention is likely to be inadequate. At the outset of the program in 1935 on the first call of the Home Lighting Adviser it was found that the average wattage in the kitchen lamp, or the kitchen fixture, was 82.5 watts. By 1936 this wattage found on the first call was found to have increased to 91. By 1938 it had reached 93, and as of 1940 the wattage in the kitchen in homes heretofore not surveyed is found to be 97.6.

This increase in wattage from 82.5 to 97.6 is a percentage increase of about 18 per cent. 1640

More significant, perhaps, than the wattage found on the first call is the wattage found in the kitchen on the second call to these more than 80,000 homes that have been resurveyed a second time.

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No re-survey is made prior to 18 months after the first visit and it is found now that homes re-surveyed have a wattage of lamps in the kitchen which average 108.2 watts, a wattage some ten per cent. greater than the figure of 97.6 watts in the homes being surveyed for the first time.

This is illustrative of the effectiveness of the program in 1641 improving the lighting only in a single room, the kitchen, but it is thought that the kitchen is an excellent measure of the general level of lighting throughout the house.

Q. Who makes these surveys you spoke of? A. The surveys are made by the Home Lighting Advisers who represent dealers in the community under the sponsorship of the Electrical League. Because neither the League nor the Company desires to merchandise either appliances or lamps, and since the Home Lighting Advisers definitely do sell lamp bulbs for the improvement of lighting intensity in the home, and

sell lamps and other fixtures, these Home Light Advisers do not represent the League or Company directly, but represent dealers in the community.

The Home Lighting Advisers are, all of them, girls, ladies, and as representatives indirectly of the League but directly of dealers, perform these operations in the home.

Q. They are employees of the individual dealers, are they, or of the League, itself? A. Indirectly of the dealers under the sponsorship of the Electrical League.

1643 —879—

In the matter of results from major appliance promotional efforts, two of the outstanding electrical appliances available in the home are the refrigerator and the range. The electrical refrigerator was first introduced on any commercial scale for residential use in the middle 1920's and because it was felt that it satisfied a long felt need and was a definitely satisfactory piece of electrical merchandise it enjoyed an extraordinary acceptance among electrical users everywhere. The saturation of electrical refrigerators in the Company's territory—that is, by saturation I mean the ratio
1644 between the number of consumers now owning electrical refrigerators and the total number of consumers—that saturation is 65 per cent.

Electric refrigerator sales are still being made at a very rapid rate. It is still a very important electrical appliance in the merchandising field, even though the saturation is as high as 65 per cent.

Q. Is that a system saturation you are speaking of? A. That is the saturation throughout the territory. For example, last year there were sold in the Company's territory more than 27,000 refrigerators. Yet this year to date the

1645

sale of refrigerators is at a rate of 27 per cent. in excess of that last year. In the sale of electric ranges which is a high energy-consuming device and which requires in its annual operation about 2½ times as much electric energy as does the refrigerator, the saturation is not merely as great as in the case of refrigerators and is about 6 per cent. throughout the territory.

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The situation is not, however, strictly comparable in the matter of consumer acceptance of the range as against the refrigerator because of the competitive situation. 1646

Cleveland is a community in which natural gas is available to a vast majority of our customers at quite low rates, and since natural gas has been for many years the accepted fuel for cooking, the Company must still consider the electrical range in the pioneering stage of promotion, especially in those portions of the territory where gas is available.

In the district shown on Exhibit 21 as the eastern three counties of the Company, natural gas is not available throughout that territory. In fact, manufactured gas is distributed in certain of the cities such as Ashtabula and Fairport, and in many of the smaller communities no gas at all is available. In such territories, the saturation of electrical ranges is very much greater than in the city of Cleveland, and in that general district the saturation of ranges is in excess of 20 per cent. 1647

The number of electrical ranges being sold, however, is on an increasing curve and although last year there were connected to the Company's lines about 3,800 electric ranges, the year 1940 to date shows an increase of 36 per cent. in ranges connected to the Company's lines over the same period in 1939.

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It is further to be noted in connection with this, that the

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rate structure of the Company was not conducive to the encouragement of electric cooking prior to 1937, when the promotional rate reduction of April 1 of that year was made, so that the range business is still in the preliminary stages of ultimate developments.

There are, however, at the moment, 152 qualified dealers in the territory of the Company representing fifteen manu-
1649 facturers as against very, very few such dealers active in the territory in 1935.

Q. You spoke of the various enterprises conducted by the Electrical League. Does it also have an Electrical Home Bureau? A. Yes, it does.

Q. What are its functions? A. The Electric Home Bureau is an operation conducted by the Electrical League established in 1937, the functions of which are to contact from day to day architects, builders, contractors, kitchen equipment dealers, lighting dealers, and others engaged in the building and equipping of homes to educate them to the
1650 requirements of adequate lighting, promote the electrification of these homes for the complete use of electricity for all phases of the homemaker's job, not only refrigeration, cooking and lighting, but air-conditioning, both winter and where possible summer air-conditioning, the electric dishwasher, the electrical disposal unit for the kitchen sink,

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well equipped laundries, adequate lighting throughout, the complete electrification of the home.

This effort requires the services of six field men under the direction of a Company employee who works with the

Electrical League. The efforts consist of frequent demonstrations and kitchen planning talks to these architects, building contractors and building owners, a consultation service with these on wiring plans.

An architect on the League staff assists with kitchen planning, and the effort in general is to make the provision early enough in the construction of the house to enable it to be an all-electric home.

The efforts are especially fruitful in dealing with apartment house owners and in the last few years of the apart- 1652
ments built or erected in the City of Cleveland and suburbs, none has been built without wiring for electric cooking and the all-electric kitchen, and only one of these has been installed without electric ranges in the kitchen, so that the program has been especially fruitful in the field of apartment houses, although the efforts are definitely tangible and the results satisfactory in individual home efforts.

In the individual homes, efforts are made to encourage the use of motor-driven blowers for the circulation of warm air in warm air furnaces, and the installation of coal stokers which are motor-driven. 1653

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These efforts have been reasonably successful and resulted last year in the sale of motor-driven blower units in the number of 1,850, and of stokers more than 1,550. These results are definitely due to the efforts, we think, of the Electric Home Bureau.

Q. Is the service of the Electrical League addressed primarily to development of residential consumption? A. Yes, although to the extent I have indicated it has fostered commercial and industrial sales. However, the major efforts of

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the Company in commercial and industrial sales are made through direct commercial and power sales divisions of the Company's sales department.

Q. Rather than through the Electrical League? A. Rather than through the League.

Q. Could you describe the promotional policies of the Company with respect to commercial and industrial consumption? A. The power sales division of the sales department is under the direction of the supervisor of the Power
1655 Division, with fifteen men.

Cleveland is an industrial community and the prosperity of the Company in the past and the growth of the Company has been in large measure tied to the industrial and commercial development of the community.

Early efforts of the Company in power sales were largely

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devoted to converting isolated power plants, so-called—those plants in which a small manufacturing enterprise did its own power generation—converting such plants to purchased power. Those efforts of the Company were very successful
1656 and the number of commercial and manufacturing establishments in the Company's territory now making all their power needs is only thirteen contrasted with this, that the Company has more than 1,800 large commercial and industrial customers.

In the early years of the efforts of this division, there was a widespread use of internal combustion engines due to low gas and oil prices. The Company, however, by using qualified engineers in its sales divisions and particularly the power section of the sales department, working in cooperation with these manufacturers with electric motor and

equipment manufacturers, with consulting engineers, was successful in educating its potential customers to the economies of purchased power.

Special attention was and is given to new industries where no power equipment or generating equipment at least is necessary to be displaced and where the opportunities for selling purchased power are, of course, easiest. There are, in the territory, still some opportunities for displacing some partially used power generating equipment, and a class of equipment described as mechanical drive where pumps or 1658
other machinery are now driven directly by a steam engine or a gasoline engine or other prime mover, so-called, which

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is a potential load for the Company when converted to a motor drive.

In downtown Cleveland, in the office building district, where there have been, prior to 1930, at one time or another, seventy isolated power generating plants, the number of these generating all of their needs has been reduced to only one, and the number generating a portion of their needs is only three others. 1659

Q. Did some of these old plants which were in existence also provide steam on the premises on which they were located? A. Yes, and they are a sales problem requiring very careful analysis of the actual conditions prevailing. When both steam and electricity are required by the consumer, the economics of displacing the steam generation of electricity is not as clear-cut as in the case when steam demands are smaller, as a result of which the record of the Company in displacing such isolated plants in the hotel and downtown building district is the more impressive.

1660 Q. In furnishing current to one of these purchasers that previously used its own facilities for the generation of power, and also for steam generation, were you at times confronted with requests to establish steam service as well as electric service? A. Yes, and as a result of those requests, we did establish that central steam service for the downtown area of Cleveland for heating.

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1661 The commercial efforts about which you inquired are handled by the commercial division of the sales department under a supervisor with twenty-three employees and his contract is largely with retail sales establishments, small stores, small offices, small shops, those whose use is less than twenty kilowatts of demand, and the number of such customers is 35,000.

The territory of the Company is divided into salesmen's districts, and these men are each assigned to a territory for whose customers they are responsible.

The average number of customers of the general commercial class served by each of these salesmen is about 1,600.

1662 The customers' needs for information as regards improved lighting, major appliances of a commercial nature such as commercial refrigeration in a grocery or a meat shop, cooking requirements in small restaurants, drug stores and similar places, those needs are served by the territory man in the retail commercial division.

Lighting there, too, is a very important effort in the sales program, since lighting as a tool for selling is coming into considerable prominence. Fluorescent lighting recently developed is one of the distinct opportunities for promotion

by commercial divisions as are the use of electric signs, spot lighting of merchandise, air-conditioning in those small spe-

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cialty shops where air-conditioning can be sold, and similar load building activities and devices.

Q. Do you have a commercial division which handles the so-called commercial accounts? A. Yes. It is that division which I have described as the retail commercial division.

Q. Do you feel that the intensification of an industrial or a commercial promotional program results in definite 1664
advantages to the people located in your territory? A. Yes, and as evidenced by the very favorable response which the Company has received from its consumers, those efforts have been justified.

Q. In what respects do the people of the territory benefit by promotional activities in industry or among large, commercial consumers? A. To the extent that the Company is able to contribute to the reduction in costs required in the manufacture of a product, or the sale of a product, the Company then benefits that manufacturer or seller, and to the extent that that manufacturer is able to improve his 1665
business in the community, the general prosperity of the community is raised and the residential and all consumers benefit.

The specific benefits to residential consumers from such efforts of the Company as those of the Home Lighting Advisers and the home economists whose duty it is to assist the home-maker in the use of the electric range most espe-

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cially in the planning of meals and the aiding in the design of electric kitchens, those intimate contacts in the houses

have brought many, many favorable comments to the Company from its consumers and this program, the Company has every reason to believe is well received by the community.

Q. What types of advertising do you engage in? A. The Company's advertising department, under an assistant to the President, directs not only the advertising by the Company over its own name described as direct advertising, but in addition, serves as consultant and adviser in the adver-
1667 tising arranged by the Electrical League, the so-called League advertising, and a very important third type of advertising carried on in cooperation with the dealers and to which the Company contributes a share of the cost known as cooperative advertising.

The direct advertising by the Company, in addition to newspaper or ordinary periodical advertising, includes the preparation of sales promotion booklets, pamphlets calling attention to particular efforts and particular appliances, and similar activities.

Q. Is advertising a rather expensive item of operations?
1668 A. Whether advertising is expensive must be judged by the results obtained. That the amount of money spent is great, is a correct observation, perhaps, but that it is expensive

is probably not a correct observation because the results received in the form of increased sales thereby resulting in reduced rates to consumers through reduction in costs, would cause me to say that the advertising promotion of the Company is not expensive.

In connection with the effort I described as cooperative advertising with dealers, the Company definitely stipulates

that the circumstances under which the Company will contribute to such advertising is that the dealer must advertise only merchandise of accepted quality, behind which the Company can stand.

The Company exercises this precaution in order that its efforts and its financing might not be used to promote the sale of shoddy merchandise in the community.

Q. Now, what have been the results of this promotional activity in addition to the specific instances you have already given? A. Reference to Exhibit No. 25 shows the increased 1670
use per residential consumer resulting from the promotional efforts and other factors over the last thirty years.

The efforts during the early period from 1910 to 1920 were substantially all devoted to just getting customers. As a result, the average use per consumer did not go up very rapidly because, as new consumers were attached to the lines, those were likely to be small, low-use consumers, and it will

be noted, for example, between 1912 and 1915 that the average use per customer actually went down during a period when the number of customers increased from 50,000 to about 1671
90,000.

Q. You don't feel, of course, do you, that the fact of increase is due solely to promotional activities? A. Well, the availability of appliances, of course, have contributed very substantially to this increased use, but in very large measure the increased use per residential consumer has resulted from the educational and promotional policies of the Company and of the industry.

The corresponding information for the general commercial customers may be seen from Exhibit 26, in which it is

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seen that between 1916 and 1939 the increase per customer has increased from about 1,300 to almost 4,000, a three-fold increase.

Q. Excuse me, did you say 1,300? A. Yes, 1,300.

Turning our attention to Exhibit 25 on residential consumption for the same period, namely 1916 to 1939, it is seen that the average use per residential customer has increased from 300 to 924, again a three-fold increase.

Since 1916, the trend of increased use per residential
1673 customer on an annual basis has been uninterruptedly upward with the single exception of 1933, when, as a result of the depression, the average use per customer in that year was actually lower than the year before.

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Since the revival of effort on the part of the Company and its sales promotion policies which had been interrupted in the early period of the depression, and in substantial measure because of the inauguration of these very successful promotional activities, such as the "Better Light—Better Sight" program, the Electrical Home Bureau, the inaugura-
1674 tion of the Company's residential promotional division in 1934, that rate of increase from 1933 to 1939 is more rapid than that experienced during any other period of the Company's history, and it is further of significance, we think, that the rate of increase during 1940 is even more rapid than has been experienced in any of the previous years, and the increased use per residential consumer, this year, over last year, will be probably an all-time record increase.

Q. Would you refer to Exhibit 27? A. Yes.

Q. The curve shown for kilowatt hours per consumer is very irregular. Can you explain the irregularities? A. Yes.

This is quite an interesting exhibit in that it portrays not only the results of the promotional efforts on the part of the company, but indicates the widely fluctuating conditions resulting from a highly industrialized community.

For example, in 1929, the average use per customer of

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this class was about 530,000 kilowatt hours per year. By 1932, as a result of the drastic contraction in industrial and business activity, that average use per industrial and large commercial customer, had declined to 330,000. 1676

The revival of activity then began, and by 1936 and 1937 this was substantially above the 1929 level and had reached about 560,000 or 570,000 kilowatt hours.

In 1938, there was a drastic reduction in activity. The average use declined to 450,000 kilowatt hours, but was restored again in 1939. The 1940 figure is again such as to indicate a new all-time high in the average use by these customers.

The Examiner: During the luncheon recess, counsel for the Respondents and counsel for the Commission indicated that they would like to have some 1677 time this afternoon to go through the record and look for corrections therein and I will now recess for that purpose for the rest of the afternoon.

We will continue tomorrow morning at 10:00 o'clock.

(Whereupon, at 3:45 o'clock p. m., the hearing was recessed until 10:00 o'clock a. m., August 8, 1940.)

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1678 BEFORE THE

Securities and Exchange Commission

Docket No. 59-10

IN THE MATTER

of

THE NORTH AMERICAN COMPANY, *et al.*

1679 Hearing Room 1103,
Securities and Exchange Commission Building,
Washington, D. C.,
Thursday, August 8, 1940.

Met, pursuant to recess, at 10 o'clock a. m.

Before: W. W. SWIFT, *Trial Examiner.*

Appearances:

1680 RALPH C. BINFORD,

ARTHUR J. BUSWELL, Attorneys for the Securities and Exchange Commission.

CHARLES S. HAMILTON, JR., of Sullivan & Cromwell, 48 Wall Street, New York, N. Y., attorneys for the Respondents.

S. PEARCE BROWNING, JR., of Sullivan & Cromwell, 48 Wall Street, New York, N. Y., attorneys for the Respondents.

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PROCEEDINGS

The Examiner: The hearing will come to order.

Whereupon, ELMER L. LINDSETH resumed the stand and testified further as follows:

Direct Examination by Mr. Hamilton (Continued):

Q. Mr. Lindseth, would you refer again to Respondents' Exhibit 24. Will you explain that exhibit further? A. I have described the significance of the lower three curves being electric production expense per kilowatt hour sold, electric operating expense per kilowatt hour sold, and the sum of the two indicated as the total electric operating expenses per kilowatt hour sold.

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The uppermost curve is the electric revenue received by the company per kilowatt hour sold, and shows a long time declining trend from 1921 to 1939, from 2.47 cents per kilowatt hour average revenue received in 1921 to 1.77 cents per kilowatt hour average revenue received in 1939.

This overall decline in revenue is thus seen to be 0.70 cents per kilowatt hour for the 18-year period.

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The corresponding decline in electric operating expenses during the same 18 years was slightly less than 0.60 cents per kilowatt hour, having been reduced from 1.28 cents per kilowatt hour in 1921 to 0.69 cents in 1939, a decline of .59

cents per kilowatt hour.

Thus it is seen that the overall reduction in revenue received per kilowatt hour, or the selling price, has been greater than the decline in the total operating expenses per kilowatt hour.

1684 Important components in the cost of selling energy, however, are present other than those shown on the diagram, namely, taxes and depreciation.

The fixed charges on investment are a major element in the cost of power. During the period shown on the exhibit, the investment required per dollar of gross revenue has increased substantially, that is from a value of $3 of investment—or fixed assets is better—required in 1921 per one dollar of gross revenue, and from this level the ratio has
1685 increased to a ratio of about $5 in 1939 of fixed assets required per one dollar of gross revenue.

But because of the trend in the number of kilowatt hours furnished per one dollar of gross revenue received, the investment in fixed assets required per kilowatt hour sold as of 1921 was 8.36 cents. And the corresponding figure as of 1939 was increased only to 8.54 cents. That is, within the limits of difference, it may be said that the investment required per kilowatt hour sold in 1939 was only slightly higher than the corresponding investment required in 1921.

Taxes per dollar of revenue have similarly increased at
1686 —896—
a very rapid rate during the 18 years being discussed, but again, because the number of kilowatt hours furnished per dollar of revenue received has very markedly increased, the resulting taxes per kilowatt hour sold have been maintained at a level on slightly below that prevailing 18 years ago.

The taxes per kilowatt hour sold in 1921 were .307 cents per kilowatt hour. The corresponding taxes in 1939 were .286 cents per kilowatt hour—a slight decrease.

The rate at which depreciation has been charged when related percentagewise to fixed assets is lower in recent

years than prevailed 18 years ago, but because of the compensating effects of the increase of investment fixed assets required per dollar of gross revenue, and the accompanying increase in the number of kilowatt hours sold per dollar of gross revenue, the two effects of these have yielded an investment slightly higher per kilowatt hour in 1939 than in 1921, and the depreciation charges today per kilowatt hour are substantially those of 18 years ago. The charge for 1939 was .223 cents. The corresponding figure for 1921 was .242 cents per kilowatt hour. 1688

Thus, fixed charges exclusive of return, that is taxes and depreciation, have decreased in the 18-year period by .040 cents per kilowatt hour or 4/10 of a mill.

Thus, it is seen that such fixed charges have not decreased in the 18-year period to the same extent at all as have oper-

ating expenses been reduced.

Since the reduction in revenue received per kilowatt hour exceeds the reduction in operating expenses per kilowatt hour for the 18-year period by an amount in excess of 1 mill per kilowatt hour, and during the same period the corresponding 1689 reductions in taxes and depreciation have been but 4/10 of a mill per kilowatt hour, the excess reduction in revenue above that accounted for by depreciation, taxes and operating expenses has come from the reduced return received on the investment required, which during the period has actually increased.

Mr. Hamilton: May this document be marked Respondents' Exhibit 29 for identification?

The Examiner: It will be so marked.

1690

(The document referred to was marked "Respondents' Exhibit 29 for identification.")

By Mr. Hamilton:

Q. Will you explain, Mr. Lindseth, what Respondents' Exhibit 29 for identification portrays? A. This shows for the Cleveland Electric Illuminating Company system the B. t. u. per kilowatt hour of net output record of performance of the power plant system from 1920 to 1939, inclusive,

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and the production expense in cents per kilowatt hour or net output for the period from 1911 to 1939 inclusive.

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Q. This chart has been prepared under your supervision? A. Yes, it has.

Q. The facts shown are taken from the records of the company? A. Yes, sir; from the Statistical Department records.

Mr. Hamilton: I offer it in evidence as Respondents' Exhibit No. 29.

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Mr. Binford: No objection.

The Examiner: It is received in evidence under that number.

(Respondents' Exhibit 29 was received in evidence.)

By Mr. Hamilton:

Q. Some of the facts shown, Mr. Lindseth, are those as to which you testified yesterday, particularly with reference to system B. t. u. Would you refer now to the exhibit and

explain the meaning of the term "net output?" A. In the generation of power, all of the electricity generated in the power plant is not available for delivery from the plant to the transmission and distribution systems, being required in part for the operation of auxiliaries, station lighting and other plant uses within the power plant itself. The amount of energy delivered from the power plant to the transmission and distribution systems, which is the aggregate or gross generation reduced by the amount of generation required

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within the power plants is referred to as "net power."

The production expense as shown on Exhibit 29 then is the production expense per kilowatt hour of such net output from the power plants.

Q. I note from the exhibit that system B. t. u. is shown only as far back as 1920, whereas production expense is shown back to 1911. Why is there a difference in the period shown? A. The difference arises from the availability of the data. Accurate records of plant performance expressed in more precise units of B. t. u. per kilowatt hour net are not available prior to 1920. Costs, however, are available over a much longer period. 1695

Q. Production expense as shown on this exhibit is not, for the reason that you have stated, completely comparable to electric production expense as shown on Exhibit 24, is that right? A. That is correct. The electric production expense as shown on Exhibit 24 is the electric production expense per kilowatt hour sold, and differs from the electric production expense per kilowatt hour of net output from the generating plants by virtue of the fact that all of the energy deliv-

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ered to the transmission system, or better perhaps delivered from the power plants is not available for ultimate sale to consumers, being in part lost through transformation, conversion, transmission and distribution losses, and in part

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because of substantial amounts of such energy are used in company operations at sub-stations and other points on the system.

1697 On Exhibit 29, the curve shows a marked rise in production expense in 1920 as compared with relatively low levels in preceding years. Would you explain the abruptness of that rise? A. In the period prior to 1915 or 1916, the pre-war period for World War No. 1, the prices of coal did not for the 10 years between 1906 and 1915 ever reach as high a value as $2 per ton. The maximum, as a matter of fact, was $1.82. That first point shown on the diagram, 1911, the cost of coal per ton was $1.49. Wages and supplies were correspondingly low in cost.

1698 Shortly after the outbreak of the World War, and more especially in 1918, 1919, and during the post-war inflation of 1920 and 1921, the price of coal rose very rapidly. As of 1920, the point on the production expense curve which is a maximum, the average price of coal during the entire year was $5.77 per ton, and at times reached a level of $7 per ton.

The Examiner: Were these prices at the mines or delivered in Cleveland?

The Witness: These were prices delivered at Cleveland, and they are the price which goes into the price of the energy at the power plant.

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Mr. Buswell: By the prices delivered at Cleveland, you mean prices at the respective plants of the company, Cleveland and elsewhere?

The Witness: Yes, that is correct.

By Mr. Hamilton:

Q. Although during that period, there was just one generating station, so it was delivery at the power plant? A. There were two.

The Examiner: They were delivered prices rather 1700
than at-the-mine prices?

The Witness: That is correct.

By Mr. Hamilton:

Q. Now, will you proceed? A. Hence, the decline in production expense per kilowatt hour as between 1920 and 1939 embodies more elements than merely that shown by the upper curve which represents the efficiency of generation but which represents the combined effect of fuel consumption, fuel cost per ton, labor, supplies and material costs, and the other components of production expense. 1701

It should be noted, however, in connection with the upper curve of improvements in system economy, that this shows a substantially uninterrupted trend for the 18 or 19 years shown. The only reversal was in 1937, caused by some extraordinary construction conditions on the system, requiring

the operation of relatively inefficient capacity during the periods of temporary construction.

During the period shown, there was substantial improvements in stations' equipment, in design and construction of

two modern power plants, but during the period such as between 1931 and 1937, when the improvement in the efficiency of power plant operation was 10 per cent., that is, the reduction in B. t. u. per kilowatt hour was from 16,600 in 1931 to 15,000 in 1937, this substantial improvement was achieved without the addition of new or efficient capacity, although in the early part of the period—1932—there was the removal of some relatively inefficient equipment from the Lake Shore plant.

1703 Q. What is the extent of the company's coverage of rural territory in the system? A. Reference to the portion of the territory served by the company, Exhibit 21 shows the extent of incorporated municipalities, and the extent of unincorporated areas in the company's total service territory. The cross-hatched sections of this exhibit are incorporated municipalities described in the company's records and in my testimony as urban, even though the population of some such incorporated villages is quite small.

Q. What is your definition of the term "rural" for pur-

1704 poses of this statement? A. Rural territory is territory outside of incorporated municipalities, and on Exhibit 21 shown here, the extent of rural territory served is about 1,150 square miles and the extent of urban territory is something over 500 square miles.

Q. In this rural territory which you spoke of, how much in terms of mileage do the company's lines traverse? A. In the rural territory, there are 2,200 miles of public highway. Of these, the company's lines now traverse 1,300 miles, or 60 per cent. This 60 per cent. of highway coverage brings the service facilities of the company available to 74 per cent.

of the potential rural customers in the entire territory. 61 per cent. of these potential rural customers are now served.

Q. Is the expansion in this territory a fairly constant one, in other words, progress is being made all the time? A. Yes. Line extensions or increases in the company's facilities are continuously being made. As of last year, for example, the increase in the miles of rural distribution lines or these highways traversed was 5 per cent., being 56 miles of additional distribution system in rural areas. These rural distribution facilities have been built substantially all by the 1706
company's construction, and of the aggregate number of customers in such areas, but 6 per cent. were acquired by pur-

chase by the utilities.

Q. So that the high coverage which has resulted has been primarily due to extension of your own facilities? A. Yes, that is correct.

Q. How does the number of persons served in this so-called rural area compare to the number of potential rural customers? A. The number of potential rural customers in the company's territory is estimated to be 26,500 under the 1707
conditions presently prevailing of the population in the district. The number of such potential customers now served is 16,225 or some 61 per cent. saturation of potential customers. Service is available to an estimated 19,600 of such rural customers, or 74 per cent. of the presently potential customers.

Q. Would you explain what you mean by "potential"? A. When referring to customers in the district, a house is considered, or a suite in an apartment, a store unit—any of these—is considered a potential customer. When he takes

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service from the company he becomes an actual customer. The aggregate figure then of 26,500 potential rural customers represents then the number of customers the company would now have were every person who might take energy in the district actually to do so.

Q. How does the number of farms in the territory actually served compare with the potential number of farm cus-

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tomers in the territory? A. In connection with discussion
1709 of farms and farm customers, I would like to differentiate between the two, that is between the number of farms and the number of farm customers, since matters of definition are there involved.

There may be more than one customer per farm when on a given farm several houses are located, for example, each of which becomes a customer.

For the company's statistical record purposes, a farm is defined as a tract of land of 3 or more acres used mainly for agriculture, or one of less than 3 acres when the owner or tenant devotes his entire time to agriculture thereon.

1710 The farm then in rural territories, i.e., unincorporated territory, is a rural farm. A farm so defined in urban territory, that is an incorporated municipality, is described as an urban farm.

A farm customer is a customer located on a farm, and when as happens in the case of the Cleveland company, the number of farm customers actually exceeds the number of farms, statistical data are more reliable when related to farm customers.

In the case of the company as of the present time, the ratio between farm customers and farms is approximately

1½—that is, there are about 1½ farm customers per farm.

Within these definitions, then, the number of potential

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farm customers in the rural areas served by the company is about 11,900 in the rural areas. The corresponding figures in the urban areas are 3,400 potential farm customers, an aggregate of 15,300 potential farm customers in the entire service area.

Service is now available to 9,600 of these potential farm customers, or 63 per cent. Because not all farms to which 1712
service is available actually utilize that service, the number of farm customers now served both rural and urban is 7,700, representing 50 per cent. of the total potential farm customers.

Q. And what percentage of those farm customers to whom the service is available? A. What is that?

Q. That is, this is a relation of your 7,700 figure to 9,600? A. Of the farm customers to whom service is actually available, 80 per cent. now avail themselves of that service and are customers of the company.

Q. Has the number of farm customers actually served 1713
shown a marked increase in recent years. A. In the 6-year period from 1933 to 1939, the number of farm customers, urban and rural, has increased from slightly over 6,000 to the 7,700 presently served, an increase of 27 per cent. During the same period, the number of rural customers served, farm and others, has increased from about 12,500 to about

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16,225, an increase of 30 per cent. in the total rural customers served.

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Q. Now, would you relate if you can, the increase in distribution lines in these rural territories for the same period? A. As of this period from 1933 to 1939 during which the number of rural customers has increased 30 per cent. and the number of farm customers, urban and rural, has increased 27 per cent., the required distribution line to serve these customers has increased more rapidly than either and has increased 38 per cent. in the period.

Q. And in terms of actual mileage added, what are the
1715 figures? A. The actual miles of rural distribution line as of 1933 was 950. The corresponding mileage of rural distribution as of 1939 was slightly over 1,300. The increase then is about 350 miles of rural distribution line increases in the period.

Mr. Buswell: Is this increase located in any one particular section which you serve, or is it general in your rural sections served?

The Witness: It may properly be said that this increase is quite general, since it represents the aggre-
1716 gate of a very large number of rather small jobs, but due to the economic aspects of the problem, namely, that the rural line extensions are paid for in part

or at least part of their cost contributed to by the consumer in the more prosperous areas, and those adjacent to the built-up sections, the line extensions are likely to be more rapid. The number of line extension jobs last year, of rural line extensions, was 250 individual extensions, and since the average line extension serves about 3.1 customers, the number of

additional rural customers to whom service was made available and who took that service was about 750 last year. Since 1936, about the last three or four years, there have been 1,020 such individual construction jobs.

Q. The figures which you have given then are the system figures? A. The data are in all cases system figures.

Q. And are to be related, of course, to the territory shown on Exhibit 21? A. That is right. 1718

Q. Do you feel that the company's line extension policies in rural territory have been favorable to the consumer? A. These line extension policies have been favorably received by the consumers. The consumers are at a reasonably progressive rate taking service from the company, and there is nowhere in the company's territory any R. E. A. required for the service of rural or farm customers. The facilities of the Company in all cases have been utilized.

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Q. What do you mean by "R. E. A."? A. Rural Electrification Administration. 1719

Q. Project. A. Project. The present line extension schedules of the company enable these potential farm or potential rural customers to receive a service at reasonable cost. The company's first line extension schedules became effective in 1917 under which an applicant deposited with the company the estimated cost of the line extension and was entitled to refunds as other customers were connected to the lines, at the rate of $20 for each of such customers connected.

Although the details of this plan have changed somewhat in the 23 years since the plan was inaugurated, the present plan of line extensions embodies the fundamental principles which have prevailed since the beginning, namely, that the applicant for service deposits with the company an amount toward the cost of the extension which is determined in accordance with the schedules filed, and second, that as additional customers are added to the lines, or as the lines are used for transmission or street lighting facilities, that re-
1721 funds are made to the depositor in accordance with filed schedules.

The present schedule applicable to rural line extensions has been in force about 4 years. This schedule permits an applicant for service in rural areas a free extension when the length of line required does not exceed 200 feet. When

the facilities required exceed 200 feet, the consumer or the applicant deposits with the company an amount towards the cost of construction equal to $25 per 200 feet of pole line required in excess of the free extension.

1722 For example, if an applicant for service requires line construction in an amount of 600 feet, he is entitled to 200 feet free and would thus make a deposit of $50 towards the cost of the line construction. Under a refund provision, however, should another applicant between the first applicant and the last point of service of the company request service, the company would then make a $25 refund to the original depositor because of the acquisition of a second customer, making the total amount on deposit $25; and this $25 would then be divided between the two applicants, and each would then have on deposit with the company $12.50.

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In the event that a third customer would make application in the area on this line extension, the last $25 of deposit would be refunded to the consumers, and the facilities would then have been built entirely at the cost of the company and all deposits refunded.

In considering the cost of such line extension schedules, the rates under which the consumer is served should be given consideration, and it should be noted in this connection that such rural consumers, regardless of their location, are served

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at precisely the same rates that residential consumers are served at anywhere in the territory, whether city or rural.

Q. Is there an optional schedule available to rural customers on extensions? A. Yes, sir; such an optional schedule filed with the Public Utilities Commission in accordance with a plan whereby the consumer does not make deposits with the company for the line construction but pays an amount monthly as a minimum bill, which is 2 per cent. of the estimated cost of the line. No customer or no applicant of the company has elected to be served under this optional schedule. All of them have elected to take so-called rural line extension schedule under which deposits are made.

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Q. In recent years what has been the average number of extensions per year in rural territory? A. The average is about 250 per year.

Q. For what period? A. For the last three or four years, since 1936.

Q. And how many customers per extension have been added through this means? A. The average number of customers per line extension job is about 3.

1726 *Elmer L. Lindseth—By Respondents—Direct*

Q. And how is that number of extensions distributed throughout the territory? A. More than half are in the 3 counties of Ashtabula, Lake, and Geauga.

—912—

Q. Approximately what number? A. 550.

Q. During the period you have referred to? A. Since 1936.

Q. Out of a total of how many? A. Out of a total of 1,020.

1727

Q. Throughout the system? A. Throughout the system.

Q. What have been the effects of promotional policies in maintaining load or getting load requirements in the rural territory? A. Since 1926, the company has followed a policy of vigorous rural load promotion of an educational character primarily to make available to farmers and other rural customers adequate information as to the availability of equipment, water pumping systems and the like for the consumption of energy. These promotion programs have included, for example, display tents at county fairs for the

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cooperative display of merchandise with local dealers and merchants.

The electric farm equipment has been very definitely improved in recent years, and load growth in the company's rural area has been rapid.

There have been in addition to these cooperative displays, programs presented on electrical subjects at farmer insti-

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tute meetings, meetings of the Grange, and at the county fairs, and during a portion of the period from 1934 to 1937, the company circulated among approximately 1,000 custom-

ers, a magazine "Electricity On The Farm," and during the next year another magazine "The Electric Ruralist."

The company in rural territories maintains sales representatives, territory men so-called, who have an adequate familiarity with electrical equipment such as brooders, poultry water heaters, soil heating equipment, feeder grinders, and other farm equipment, as well as residential equipment.

Q. Have these promotional policies resulted in increased consumption in rural territory? A. Specific data are not 1730
available for the rural territory alone, but for the portion of the system roughly to the east of Cuyahoga County, made up of 16,000 rural customers and about that many urban customers, the average use per residential consumer is as of the end of June, 1940, 1,063 kilowatt hours per consumer. This compares with a corresponding figure for the portion of the system made up roughly of Cuyahoga County and a small part of Lake County for which the average used was 950 kilowatt hours per customer, indicating that the average use in the eastern portion of the system is about 10 or 11 per cent. in excess of the average use among residential 1731
consumers in the territory shown as Cleveland and suburbs on Exhibit 21.

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Q. What is the company's present rate structure? A. The company's present rate structure is one in which there are a number of schedules available to various classes of consumers in accordance with the character of the use required by the customers.

For example, there is available a residential schedule. A single residential schedule is not only available to, but

is used by all residential consumers throughout the territory, but a single schedule suffices.

For general commercial customers or small consumers of a commercial nature using less than 20 kilowatts of demand per month, there are but two schedules required,—one for alternating current service throughout the territory, and a second for direct current service in the limited downtown area of Cleveland in which direct current service is available.

The vast majority of the large commercial and industrial
1733 customers, that is those whose demand exceeds 20 kilowatts per month, for 1,200 or more of such customers, but 5 schedules are applicable throughout the range of the size and service conditions for alternating and direct current service for off peak and for special guaranteed load factor.

This simplicity of schedules also extends to the demand billing requirements of the schedule, and the demand billing requirements are favorable to the customer, and billing demands are on a one hour basis. The average of 4 weekly one hour demands being the monthly billing demand without

—915—

1734 correction or alteration for previous peak loads experienced or encountered.

Q. What are the rates actually charged a residential customer as of this date? A. The present residential schedule is 35 kilowatt hours per month at 4 cents per kilowatt hour. The next 65 kilowatt hours per month at 3 cents per kilowatt hour. The next 150 kilowatt hours per month at 2¼ cents per kilowatt hour, and the excess over 250 kilowatt hours per month at 1½ cents per kilowatt hour. The minimum bill is 60 cents included in which are 15 kilowatt hours.

Q. There are no discounts or penalties? A. There is neither a discount nor a penalty.

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Q. Are all of the schedules of rates to which you have referred uniform throughout the entire territory? A. Within the conditions of the availability of the service, the territory is served in its entirety by a single set of rate schedules. The direct current is available in only a limited area, 1¼ square miles in downtown Cleveland, but alternating current is available throughout the territory, and the rates for this service are uniform throughout.

Q. So that a resident of Ashtabula pays precisely the same amount for the same number of kilowatt hours used as does a resident residing in the center of the public square of Cleveland, if there were such a person. A. That is correct.

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Mr. Buswell: Provided he receives service from your company?

The Witness: Yes, that is right. We have control over the rates only over our own customers.

By Mr. Hamilton:

Q. Under the illustrations I have used, there would be no other possibility of service? A. Yes, there would be on the public square of downtown Cleveland.

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Q. I believe you spoke yesterday of the importance of promoting industrial load in the territory. Does the increase of industrial load have definite economic bearing on the prosperity of the community? A. Well, in a community in which industrial requirements are so important a part of the company's total service, the importance of industrial and commercial rates cannot be overlooked. The company has long maintained a policy of balanced rate structure between the

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several classes of service, such as residential, general and commercial and industrial consumers.

In the belief that it is vital to the welfare of the community that there be maintained such a proper balance, residential electric rates receive an amount of attention out

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of all proportion to their true importance. It is extremely vital to an industrial community of the type served by the company that the rates for industry and commercial en-
1739 terprises be such as to promote new industries moving into the territory, to promote the retention of industries already there, and that the residential rates not be made so low as to hamper the industrial and commercial development of the community by requiring inordinately high industry and commercial rates.

The company has long recognized this situation, and throughout its history has maintained industrial and commercial rates not only so attractive as to induce business into the community, but so attractive as to virtually eliminate isolated generating plants in the territory. It is only in an
1740 extraordinary case in which it proves economical for a potential consumer of the company to generate its own power.

Q. What has the company's record been with respect to rate reductions? A. Since 1920, the company has made 7 voluntary rate reductions in its residential schedules; 6 in its general commercial schedules; and 7 in its large commercial and industrial schedules. Throughout its history, the company has followed a practice of making voluntary rate reductions, and there has been only one rate required to be fixed by the Public Utilities Commission of Ohio as the result of an appeal by the company, and in this case the

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rates previously in effect by the company were determined by the Commission to be fair and reasonable.

Q. When was that? A. That was in 1919 and 1920—the beginning of this period I speak of. The most recent general reduction in rates made by the company was effective only 4 weeks ago—on July 7, 1940, when the company reduced its rates to customers throughout the territory in an amount of $1,400,000 per year.

Q. How was that figure derived? A. The figure for the estimated reduction is based on the application of the new 1742
rate schedules to the actual amount of business which the company did in 1939, so that more properly it should be said that rate reductions were put into effect on July 7 in the form of new schedules which when applied to the business done in 1939 would result in a reduction of $1,400,000. Since the volume of business being done and expected to be done in 1940 will exceed that of 1939, the reduction applicable to 1940 level of business will be in excess of the $1,400,000.

The Examiner: We will have a short recess.

(Whereupon, a short recess was taken after 1743
which the hearing was resumed.)

The Examiner: You may proceed, Mr. Hamilton.

By Mr. Hamilton:

Q. You were speaking of the effect of the recent rate reduction on revenues of the Company. How do the new rate schedules which have been filed or which were in effect pursuant to the rate reduction compare with those in effect

1744 prior thereto? A. The reduction in rates for residential consumers, computed on the basis of the energy used as of 1939, amounts to $840,000.00 out of a total reduction of $1,400,000.00. This reduction is accomplished by a reduction to the new rate schedule to which I just testified from the former rate schedule which was 50 kilowatt hours at four cents per kilowatt hour, one hundred kilowatt hours at 2¾ cents per kilowatt hour, and the excess over two hundred kilowatt hours at 1½ cents per kilowatt hour.

1745 The minimum bill remained unchanged at 60 cents.

Q. Can you translate that reduction in terms of annual bills to the residential customer? A. The average revenue received per residential consumer in 1939 was $33.15. Computed under the new rate schedule which became effective on July 7, 1940, the corresponding annual revenue per customer would be about $3.00 per year less. It is expected, however, that because of the increased consumption to be realized per residential consumer in 1940, and because of the

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fact that the recently effective rate reduction is applicable
1746 only to the last half of 1940, the average revenue received per residential consumer or the average annual total of bills paid per residential consumer, will not be $3.00 less than the $33.15 average for last year, but is likely to be reduced substantially less than the $3.00.

Q. On the basis of increased consumption? A. In part, and on the basis of the fact that the rate reduction is applicable only through the last half of the year.

Q. What has been the Company's record on increase of average residential consumption? A. Reference to Exhibit 25 will show that the average annual use per residential con-

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sumer has shown, with only the single exception of 1933, a continuous increase over the last twenty-three years from 1916 to 1939, inclusive.

During 1940 to date, the rate of increase is even more marked than shown during the year 1939, and the trend for 1940 will be again markedly upward. The average use as of the end of 1939 was 924 kilowatt hours per consumer and as of June 30, 1940, this figure was 960 kilowatt hours per consumer.

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Mr. Buswell: That isn't shown on the Exhibit?

The Witness: That is not shown on the Exhibit. The revenue received per residential consumer in the amount of $33.15 for the year 1939 was at an all-time high with the possible exception of the period prior

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to 1905 for which I do not have data available.

For the period at least from 1905 to 1939, the revenue received per residential consumer in the amount of $33.15 was an all-time high.

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By Mr. Hamilton:

Q. Has the average consumption of general commercial customers shown a corresponding increase? A. The corresponding data for general commercial customers are not so regular, being more susceptible to variations in business activity.

Reference to Exhibit 26 reveals a very rapid increase in average use per general commercial customer from 1927 to 1929, a very slight increase to 1930, no increase during 1931, and a drastic decline to 1933, following which there was a sharp recovery to a new high in 1936.

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The data are not strictly comparable throughout the entire period, due to the fact that in 1937 there was a reclassification of customers with the addition of certain customers theretofore classed as residential and thereafter classed as general commercial which were smaller consumers than the average of general commercial customers, resulting in some slight distortion in later years, particularly '37, '38 and '39.

The effect, from a long-range viewpoint, however, is for increased average use per general commercial customer.

1751 —922—

Q. The reclassification of which you have spoken accounts in part, at least, for the drop shown in the curve for the period 1937-38? A. Yes, in part due to reclassification and in part due to the drastic curtailment of business activity in 1938.

Q. What has been the Company's record with respect to increase in average large commercial and industrial consumption? A. This has been subject to even more violent fluctuations than that of the general commercial customers and is shown on Exhibit 27, the curve bearing the legend

1752 "Kilowatt hours per consumer."

Here is indicated the marked effect of the recession in business during 1938 and the drastic decline during the years 1931, '32, and '33.

Mr. Buswell: And '33?

The Witness: Well, 1933 showed a recovery from 1932, but was still at quite a low level of average use per consumer, being actually less than 1931 and lower than any of the years other than '32 between 1928 and 1939.

By Mr. Hamilton:

Q. Would you refer now to Respondents' Exhibit No. 28 which sets forth certain figures as to average net billings for residential consumers, and would you explain the legend shown in the right-hand corner of the chart bearing the references "A" and "B"? A. This chart shows for three use

brackets; namely, twenty kilowatt hours per month, fifty kilowatt hours per month, and one hundred kilowatt hours 1754
per month, the monthly bill incurred by the consumer.

The note referring to the hours of daily use is applicable to the bills prior to 1919, during which there were in effect rate schedules of the Company under which the charge per kilowatt hour was based on the hours of use or rate of demand, using the upper curve, the one hundred kilowatt hours based on five hours daily use of his demand, the monthly bill would be that shown by the lower curve or the "B" curve.

Should that customer, however, have used one hundred kilowatt hours as a result of shorter use, three and a half 1755
hours per day, of a higher demand, his bill would have been the higher one represented by curve "A".

Since 1919 such rate schedules have not been in effect and under the schedules in effect during the past twenty years, the consumption of one hundred kilowatt hours by a consumer is at a fixed bill regardless of the demand incurred by that customer.

The block type of line indicates the frequency and extent of rate reductions afforded the consumers of the Company

during the period of the diagram which covers the last twenty years.

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About one-half of the Company's customers use an amount of energy which in the average is that shown by the middle curve, fifty kilowatt hours per month, and it is seen that as of 1920 the bill for this amount of energy was about $3.35. But, in accordance with the Company's recent rate reduction put into effect on July 7 of this year, the new rate
1757 for the corresponding amount of energy used is $1.86.

Similarly, for the larger user whose monthly consumption is one hundred kilowatt hours, and under the most severe conditions shown by curve "A" based on three and a half hours daily use, the bill for this amount of energy in 1919 prior to the rate reduction was about $6.70.

The corresponding figure today, recognizing the effect of the recent rate reduction, is $3.35, a cut to exactly one-half of the bill for twenty years ago, or twenty-one years ago.

Q. This exhibit, then, gives effect to the new rates and
1758 rules now in operation? A. It does, by being extended through the year 1940 to 1941, it being expected that no further changes in the Company's rate schedules will be made during 1940.

That, perhaps, should be a dotted line to show that it is strictly a projection into the future.

Q. Has the Company ever increased its residential rates? A. No, residential rates have not been increased.

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Q. Have there ever been increases in other classes of service? A. Yes. During the period of very rapid increase

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in coal and other costs, during the period of the World War and immediately following, about which I testified in connection with Exhibit 29 on production expense, during that period it was necessary for the Company to increase its large commercial and industrial schedules and its general commercial rates.

Just before the full impact of war conditions was felt on the Company's economy in 1915, a rather drastic reduction in rates was put into effect for general commercial rates which required, in 1917, a rate increase as a result of the extraordinary rapid increase in costs.

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Correspondingly, in large commercial and industrial rates such increases were made in 1917 and in 1920, both resulting from the same unprecedented increases in the costs resulting from war. The rate increases were only temporary, however, and by 1924, the trend in voluntary rate reductions was again resumed and has continued in its progress toward lower costs for the consumers since that date.

Q. You have testified previously as to the comparative absence in the territory of industrial or other units which manufacture power for their own use. Can you illustrate that statement? A. Based on a survey made by the Com-

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pany, the number of the so-called isolated plants, commercial and industrial, in seventeen hundred square miles of territory which generate all of their own power needs, is but thirteen.

This is less than one per cent. of the number of large commercial and industrial customers of all classes which the Company now serves.

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In the territory, among the Company's customers, there are thirty additional large commercial and industrial establishments who generate a part of their electric needs. This is about two per cent. of the Company's customers of this class. This is rather effective indication of the reasonableness of the Company's rates for this class of service when shown by the lack of competitive industrial supply through isolated plants.

Q. Are your rate schedules filed with the Public Utilities
1763 Commission of Ohio? A. Yes. Since 1911, the Company has filed rates applicable to general classes of consumers such as residential, general commercial, large commercial and industrial, with the Commission and they have been approved for filing in every case.

Q. By the Commission or its predecessor Commission? A. That is right.

Q. Is the Company subject to regulation by the Public

1764 Utilities Commission of Ohio? A. Yes. The Company is regulated by the Public Utilities Commission of Ohio.

Q. Is it also subject to regulation as to rates by municipalities in the territory served? A. Yes. The Company is under the dual control of both the municipalities in matters of rates and the Public Utilities Commission.

For example, the recent rate reductions put into effect on July 7, 1940, were the result of negotiations between the Company and the City of Cleveland, which grew out of an investigation of the Company's business made by engineers

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employed by the City during the years 1938 and '39. Following the report of the engineers for the City to the Council, the City Council for the City of Cleveland, there was passed an ordinance by the Council fixing a maximum rate to be charged for electricity in the City of Cleveland.

This was appealed by the Company to the Public Utilities Commission because the Company felt that the rates were not reasonable. As a result of the appeal by the Company, the Public Utilities Commission ordered an inventory and appraisal of the portion of the Company's property devoted to the service of the City of Cleveland, which inventory was begun by the Company under the supervision and jurisdiction of the Commission.

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Prior to adjudication of the case, however, the City passed an ordinance acceptable to the Company and the case was thereby terminated.

The Company's operations, then, in matters of rates, as illustrated by this example, are under the dual control of the Council for the City of Cleveland, in the City of Cleveland, and the corresponding councils of all municipalities in which the Company serves, which are more than eighty in number, and in addition by the Public Utilities Commission of the State which has control not only of rates, but numerous other phases of the Company's business.

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Q. In the first instance, then, in municipalities, the question of rates is a matter of regulation by the local munic-

1768 ipality? A. That is correct, under the principle described as "Home Rule" for those municipalities.

Q. For how long a period has the regulation by the Commission of the Company's rates been operative? A. The Company filed its first schedules with the Public Service Commission of Ohio in 1911, June of 1911, since regulation has been begun by the State in 1911 through the then Public Service Commission, which had succeeded the Railroad Commission of Ohio.

1769 Q. When was the present Public Utilities Commission of Ohio constituted? By that I mean, not in personnel, but

rather in statutory basis? A. In 1913.

Q. How is the Public Utilities Commission constituted? What are its departments, and so forth? A. The Commission now consists of three commissioners, a secretary, assistant secretary, chief engineer, and a large staff of engineers, auditors and accountants.

1770 Q. Has the Commission prescribed a classification of accounts to which the Company is subject? A. The uniform classification of accounts followed by the Company was prescribed by the Commission and became effective January 1, 1915. This has been used substantially unchanged, except in detail, during these twenty-five years.

Q. Other than with respect to rates, what other phases of the Company's operations are subject to regulation by the Commission? A. I am speaking now only of electric service. A. The Company is regulated in matters of accounting by having prescribed the Uniform Classification of

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Accounts by the Commission. The Company is regulated in matters of security issue by requiring authority from the Commission for the issuance of such securities.

The Company is regulated in matters of service by being under the jurisdiction of the Commission in matters involving the adequacy of service and similar phases of the service problems encountered in the electric business.

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Q. Do you file with the Commission records of property additions and property retirements? A. Yes. Such records are filed with the Commission twice a year.

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Q. How extensive are those reports? A. These reports have been filed with the Commission as a continuance of the property record initially filed as of July 1, 1914, in very complete detail. These records show all additions and retirements of the Company's property at the exact cost at which these are recorded in the books of account of the Company.

The records are called "betterment records" so-called, and they are virtually copies of the Company's fixed asset books. For example, last year, the filing of the additions to the property accounts of the Company required six volumes totaling 2,074 pages, and in retirements required four volumes totaling 1,155 pages.

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Q. Does the Commission pass on acquisitions of property by the Company? A. Yes. In all cases when property has been acquired by purchase from another public utility, the Company has obtained from the Commission approval both of the purchase and approval of the value at which the properties so acquired were recorded on the fixed asset books of the Company.

1774 The value at which such purchased properties have been

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capitalized have been those determined by a detailed inventory and appraisal of such purchased property under order from the Public Utilities Commission.

A total of seventeen such applications for consent to purchase electric utility property from private and public utilities have been made by the Company and granted by the Commission, the first of them on January 4, 1913.

1775 Q. You have spoken of the jurisdiction of the Public Utilities Commission over the issuance of securities. How many applications for authority to issue securities have been made to the Public Utilities Commission? A. There have been a total of twenty-four such applications to issue securities granted by the Commission, the first of them December 11, 1911.

Q. And the most recent application? A. The most recent application for the issuance of securities was granted on July 3, 1940, when the Company received from the Public Utilities Commission of Ohio authority for the issuance of

1776 the $50,000,000.00 amount of 3 per cent. thirty-year bonds which were recently sold by the Company.

In connection with the issuance of these, specific requirements were laid down by the Public Utilities Commission of Ohio regarding the minimum price and the accounting procedure to be followed in amortizing the call premium and expense on the refunded issue, and the amortization of the premium received, less the expense of issue on the re-

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funding issue.

Q. Do you get authority from the Commission to capitalize expenditures? A. In order to capitalize expenditures for property additions, the Company requires authority from the Commission for such right to capitalize.

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Q. Do you make annual reports to the Commission? In order to make it clear to what Commission I am referring, my questions are addressed to the Public Utilities Commission of Ohio. A. The Company makes a comprehensive annual report to the Public Utilities Commission. This 1778
report includes all additions to and retirements from fixed asset accounts during the year, notes and accounts receivable, and all items of operating and non-operating revenue and expense in accordance with the Commission's prescribed Uniform Classification of Accounts.

The annual report also lists in detail the ownership and control of the Company, the names, addresses and voting power of the largest security holders and similar information. The report itemizes by accounts the plant additions to which I have referred, records the schedules of dividends paid, interest and other items of similar nature. 1779

The report further indicates contracts and agreements entered into, the amounts of electrical energy sold to or purchased from other utilities, numerous items of similar information applicable to the year's operations. The report in its entirety comprises 62 pages.

Q. Does the Company conform with the Commission's requirements with respect to service and complaints as to service? A. The Company very definitely does. Occasionally inquiries are made to the Commission as informal inquiries from customers or applicants for service regarding

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1780 the Company's service, its rates, line extensions or other phases of its operation. Applicants or customers are free at any time to make inquiry to the Commission, or to make complaint were such complaint to be justified, in the matters of service, rates and schedule conditions.

When the Commission receives such inquiry regarding rates or conditions of service these are passed on to the Company by the Commission for adjustment with the customer or applicant and reply made to the Commission. In the last
1781 five and one-half years the files of the Company indicate that there have been a total of 50 such communications from the Commission to the Company classified as inquiries on rates and service and the like.

Most of these relate to line extensions in rural areas. All have been satisfactorily adjusted as between the Company and the customers and the Commission. The extent to which such inquiries are made is evidenced by an analysis of these 50 inquiries as follows: 32 related to line extensions; seven related to rate inquiries; four related to billing, over-charges or refunds; two related to the combined metering of several
1782 services; two related to the cost of a service connection; one related to a problem of installation; one related to an application for three-phase service; and, one related to information requested in regard to the Power Company's responsibility to the customer.

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Q. These inquiries were called to the attention of the Company for action? A. In every case these inquiries had come first to the Commission and then had been called to the Company's attention by the Commission with the request that the matter be handled with the consumer and the Com-

mission advised of the disposition of the inquiry. This, in all cases, was done.

Q. Does the fact of the voting stock control of the Company by the North American Company restrict or obstruct the effectiveness of the regulation of the Company by the Public Utilities Commission of Ohio?

Mr. Binford: Objected to as calling for purely an opinion of the witness, upon no point in the scope of his qualification in the record here as an expert witness. It is purely a conclusion and not a matter of fact. 1784

Mr. Hamilton: From your experience as to the regulation of the Company by the Commission, can you answer that question, Mr. Lindseth?

Mr. Binford: Same objection, even if the witness answers that he is qualified and can answer the question.

The Examiner: Well, in that last question he asked him only if he could answer the question.

Mr. Binford: I don't think any answer would be competent when it calls for a personal opinion. It is not even a subject for an expert opinion. 1785

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Mr. Hamilton: I think the record shows clearly the witness' complete familiarity with the business of the Company, the scope of its operations, etc.

The Examiner: I overrule the second objection. The first one still stands.

The Witness: Will you repeat the question then, please? Read it back.

Mr. Hamilton: Off the record, please.

1786 *Colloquy*

(Discussion off the record.)

The Examiner: The matter still stands without disposition. Will you read the second question where he asked the witness if he knew?

(Question indicated was read back.)

Mr. Hamilton: My second question, Mr. Examiner, in effect restricts the original question to his knowledge.

1787 The Examiner: Now, do you know the answer to the first question that was propounded to you?

Mr. Hamilton: As restricted, as I understand it, by my second question.

The Examiner: Yes.

The Witness: As restricted to my experience?

(Second question read back.)

Mr. Binford: I will ta' an exception to the ruling and object to that question.

The Examiner: All right.

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1788 The Witness: Will you read back the first question then, which, within my experience, I am to answer?

(Question indicated read back.)

The Witness: The answer is "Yes, I can."

The Examiner: Now, do you still object to the question as restricted by counsel since your original objection?

Mr. Binford: Yes, sir, most assuredly. There is no showing that this gentleman is a member of or has

ever been a member of the staff of the Ohio Commission or knows anything about whether its activities are affected in any way, shape, manner or form by any outside factors.

Mr. Hamilton: It is obvious, Mr. Examiner, that the answer to the question has two approaches. One is definitely the approach as an executive of the Company, and it is also obvious that any answer Mr. Lindseth may make can only be made as an executive of the Company. 1790

Mr. Binford: It is furthermore obvious, I think, Mr. Examiner, that it can call for nothing but a purely personal opinion of the witness. Even if such an opinion might be proper, which I don't admit it is, no proper predicate has been laid for it by the mere answer "Yes" to the previous question.

Mr. Hamilton: Off the record, please.

(Discussion off the record.)

The Examiner: Since we are not operating under strict rules of evidence and since this witness has 1791 exhibited quite a familiarity with the affairs of this

Company in an official position, and since he says from his own experience he can answer the question, I will overrule the objection.

Mr. Binford: Exception.

Mr. Hamilton: Now, will you read back the original question which, as I understand, the witness is to be permitted to answer?

The Examiner: Yes, that is right.

(Question indicated read back.)

The Witness: It does not.

By Mr. Hamilton:

Q. I believe you previously testified, Mr. Lindseth, that the Company has two subsidiaries. Will you state their names again, please? A. The names of these are The Power and Light Building Company, and The CEICO Company.

1793 Q. What does The Power and Light Building Company do? A. The Power and Light Building Company holds title to the 15-story office building occupied by the Cleveland Electric Illuminating Company at 75 Public Square, Cleveland.

Q. Its only business then is the ownership and maintenance of this building? A. Its only business is the ownership of this building, without the maintenance thereof. The Power and Light Building Company rents this building to the Cleveland Electric Illuminating Company, who, as tenant, operates and maintains the building.

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1794 Q. Has The Power and Light Building Company any employees? A. There are no employees of The Power and Light Building Company. Its officers are officers or employees of the Cleveland Electric Illuminating Company.

Q. Why was The Power and Light Building Company organized in the first instance? A. When the building was built in 1913 and 1914 its size was such that the Cleveland Electric Illuminating Company did not expect to occupy all floors. As a matter of fact, the building was initially

occupied only to the extent of six floors by the Company. The rest of the space was rented to commercial tenants.

The Cleveland Electric Illuminating Company then, were it to have held title to the building, would have been in a non-utility business by renting such space, and the subsidiary company, The Power and Light Building Company, was organized to perform such real estate and renting functions. Gradually the Cleveland Electric Illuminating Company increased its occupancy until in 1923 it took over the entire building. 1796

Charter provisions of the Cleveland Electric Illuminating Company precluded it from being in the real estate rental business of this general office building as of the time of the construction

Q. Where is this building you speak of? A. The building is located at 75 Public Square Building, Cleveland.

—940—

Q. This is the main office building of the Cleveland Electric Illuminating Company, is it? A. It is.

Q. Is it now entirely occupied by the Cleveland Electric Illuminating Company? A. It is now entirely occupied by the Cleveland Electric Illuminating Company, for which the Cleveland Electric Illuminating Company pays rent to The Power and Light Building Company in the amount of $40,000 per year, which amount is sufficient to pay taxes, insurance, and depreciation. The Cleveland Electric Illuminating Company pays the operating expenses. 1797

Q. What are the assets of The Power and Light Building Company? A. The assets of The Power and Light Building Company are the building, itself, and the land, plus cash

1798 *Elmer L. Lindseth—By Respondents—Direct*

in an amount of $117,000, a small amount of interest receivable, certain balances in liquidating banks' and creditors' notes in the amount of $12,000, and about $1,000 of prepaid accounts and deferred charges. The aggregate of such assets totals $1,233,000 as of December 31, 1939.

Q. And its income statement shows what as net income for the period ended December 31, 1939? A. Surplus, after insurance, taxes and depreciation have been paid out of rentals and miscellaneous income, in the amount of $1,155

1799 at December 31, 1939.

Q. That, then, is the net income figure? A. That is. I overlooked, perhaps, in the description of this building, that it is occupied in the basement and a part of the first and second floors by a direct current sub-station of the Cleveland Electric Illuminating Company, containing rotary converters, transformers, buses and the necessary switching and control equipment associated with a direct current sub-station.

1800 Q. Are the officers of The Power and Light Building Company paid any salaries? A. They are not.

Q. Why was The CEICO Company formed? A. The CEICO Company at its formation performed a meter servicing, maintenance and installation function for customers of the Company who——

Q. If you will pardon me, I think since we are referring to several companies at this point we had better identify them specifically by name. A. The services to which I have referred as having been performed by The CEICO Company

were performed for customers of the Cleveland Electric Illuminating Company who owned office buildings or other buildings in which energy was purchased wholesale from the Company for sub-metering and resale to tenants.

Q. What is the business of The CEICO Company at this time? A. The CEICO Company services, repairs and reads about 3,250 sub-meters located in 42 buildings, the owners

—942—

of which have neither the personnel nor the facilities to keep 1802
these sub-meters within commercial accuracy or to perform the otherwise necessary operations in connection with the resale of current. For several years only one man has been employed and at certain times between meter-reading dates he has had some idle time. Occasionally when the type of meter to be tested or its location has required two men, arrangements have been made for a temporary helper. This service began in 1929 by request of the Building Owners Association to have made available for their convenience such an experienced person.

Q. Does the Company, The CEICO Company, do any 1803
other business? A. In 1938 another subsidiary of the Cleveland Electric Illuminating Company was dissolved and its assets, principally real estate parcels, were transferred to The CEICO Company whose charter was amended to permit the purchase, lease and ownership and other functions in connection with real estate. This occurred in connection with a simplification of the corporate structure of the Company by the elimination of this wholly-owned subsidiary, The Power Construction Company, to which I have referred, at which time all of the assets of The Power Construction Com-

pany were transferred to The CEICO Company whose name was then changed from its former name, The CEICO Service Company, to its present name, The CEICO Company.

—943—

Q. What is the nature of the real estate now held by The CEICO Company? A. The real estate held by The CEICO Company comprises 20 parcels, the aggregate book value of which is $36,600. The 20 parcels owned are held either for future expansion of the transmission system of the
1805 Company——

Q. (Interposing) —of the Cleveland Electric Illuminating Company?. A. —of the Cleveland Electric Illuminating Company, or are being held for disposal. Seventeen of these 20 parcels were transferred to The CEICO Company by The Power Construction Company and three have been directly purchased by The CEICO Company to protect Cleveland Electric Illuminating Company easements thereon.

Q. Why was The CEICO Company organized as a separate company? A. In accordance with its long-standing policy of not merchandising appliances or equipment, and of
1806 not doing contracting work in competition with its customers, Cleveland Electric Illuminating Company organized The CEICO Company as a subsidiary at the request of certain of its customers in order that the Company would not appear in this competitive light in its community.

Q. Are the officers of The CEICO Company part of the personnel of the Cleveland Electric Illuminating Company?

—944—

A. They are.

Q. Do they receive any salaries? A. They do not.

Q. I believe you have testified that the Company has but one employee? A. The CEICO Company has one employee.

Q. What are its total assets? A. Its total assets, including the 20 parcels of real estate I have described, aggregate $43,762 as of December 31, 1939.

Q. And its net earnings for the 12 months ended December 31, 1939? A. Its operating revenue herein described as the residue from deducting total expenses from sales, was a deficit of $270. 1808

Q. What were its sales for 1939? A. Sales for 1939 were slightly under $6,000, being $5,998.

(Discussion off the record)

The Examiner: Is this a good point to recess for lunch?

Mr. Hamilton: In view of the fact that the witness has to return to Cleveland, I would like at this time to request an adjournment until Monday morning, at which time Mr. Lindseth will continue, and at which time I expect to complete his direct examination. 1809

Mr. Binford: Mr. Examiner, I have no objection to the witness' being excused until Monday morning if his business in Cleveland requires his presence there, but it seems to me that to recess the hearing until

that time is unnecessary as counsel has surely known beforehand of this situation and should be able to go on with some other witness' testimony for the rest of the week.

1810

Colloquy

The Examiner: Well, have you a witness available, Mr. Hamilton?

Mr. Hamilton: As I have already indicated to counsel for the Commission in an off-the-record discussion, we have no witness available at this time and I would prefer to resume with Mr. Lindseth on Monday morning.

Mr. Binford: I still think that the situation might have been forseen, Mr. Examiner. The mere failure

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of counsel to have a witness present, although physically I guess it must result in a recess of the hearing, is no proper excuse for it.

Mr. Hamilton: I would like to state for the record that it should be well understood by this time that the production of these witnesses is really not a simple task. I mean by that, that these men are important and significant in the operations of their own companies and that we can't simply at our own whim or request, insist or demand that they appear on a minute's notice.

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Mr. Binford: The process of subpoena is open to Respondents as well as to the Commission.

The Examiner: I think that all things considered we should let Mr. Lindseth off until Monday morning, but I understand you have some corrections to offer to the transcript and we will come back at two o'clock for that purpose. We now stand recessed until two o'clock.

(Recessed at 12:40 o'clock)

AFTERNOON SESSION

(The hearing was resumed at 2 o'clock p. m.)

The Examiner: The hearing will be resumed.

I would like to ask you gentlemen if you have agreed on any method by which the corrections which you want to make in the transcript can be effectuated?

Mr. Binford: I think we have.

Mr. Hamilton: We have. The corrections will be 1814
reduced to writing and a memorandum of the corrections furnished to the stenographer for incorporation into the transcript proper.

The Examiner: Very well. When you have written up these corrections, the reporter will incorporate them in the record.

Turning to another matter, I think this is a good time for me to pass on the question whether the Commission in the documentary evidence which it introduced at the opening session of this hearing vouched 1815
for the accuracy of the documents introduced.

Mr. Hamilton: Mr. Examiner, may I interrupt for just a moment?

The Examiner: Yes.

Mr. Hamilton: Counsel for the Commission has submitted what is in effect a reply brief to our brief. I wonder if we are to be given an opportunity to file our own brief on the question?

1816 *Colloquy*

The Examiner: Yes, you may do that, but in view of the disposition I have in the matter, maybe you would not care to do so. I will make known my ideas about the matter.

At the time the evidence was offered, the observation was made by counsel for the Commission that the Commission could not vouch for the accuracy of the particular individual statements made therein. After a good deal of argument pro and con, I admitted the
1817 documentary evidence in evidence with the right in the respondent at some later date to object to its admissibility on the ground of relevancy and materiality.

At the time, I thought the question of whether the Commission vouched for these documents was pretty much in issue, but on the present state of the record it seems that it is purely an academic question, and for the present I think I should overrule that objection and if at some later date in the hearing some move is made by Commission's counsel to question any of the data in these documents, you might
1818 renew your objection.

That will be my disposition of the matter for the present. I will hold these briefs, and if it becomes a real question in the case later on, I will then dispose of it.

Mr. Hamilton: May I also state, Mr. Examiner, that while copies of the Commission's brief were undoubtedly served in due course last week, they actually were not received by us until this week, and there-

fore our opportunity to review that brief has been very limited at this time, and with your permission we would like to reserve the right to file a reply brief, and if after full consideration a reply brief seems necessary.

The Examiner: You may do that.

Now, if there is nothing else to present, in view of my having excused Mr. Lindseth until Monday morning and no other witness being available, this matter is continued until 10 o'clock a. m. of Monday, August 12. 1820

(Whereupon, at 2:20 o'clock p. m. a recess was taken until Monday, August 12, 1940 at 10 o'clock a. m.)

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1822

BEFORE THE

Securities and Exchange Commission

File No. 59-10

IN THE MATTER

of

1823

THE NORTH AMERICAN COMPANY, *et al.*

Hearing Room 1102-A,
Securities and Exchange Commission Building,
Monday, August 12, 1940,
Washington, D. C.

1824

Met, pursuant to recess, at 10 o'clock a. m.

Before: W. W. SWIFT, *Trial Examiner.*

Appearances:

(As heretofore noted.)

1825

PROCEEDINGS

The Examiner: The hearing will come to order.

Whereupon ELMER L. LINDSETH resumed the stand and testified further as follows:

Direct Examination by Mr. Hamilton (Continued):

Q. Mr. Lindseth, does the Cleveland Electric Illuminating Company conduct a steam business in addition to its electric 1826
utility business? A. Yes, it does.

Q. And can you give us approximately for 1939 the relation of gross revenue from steam as compared with gross revenue from electric service? A. In 1939 the gross revenue received from steam sold was about $1,350,000.

This is slightly less than 5 per cent. of the aggregate gross revenue received by the Company from both the electric and the steam business. The number of customers served is about 600.

Q. These are steam customers? A. Steam customers.

Q. Is the steam business necessary to the conduct of the 1827
electric business? A. Yes, it is. In the generation of electric energy in the district in which the Company serves coal is

the economically available fuel to be burned under boilers from which the steam may be used either for heating or for the generation of electricity or both. In the event that steam is not available to consumers in downtown Cleveland for heating the economics of the situation suggests that there be explored the possibilities of generating the electric needs for the building as well as the generation of the steam needs.

1828

This is a calculation requiring some considerable skill and experience and not infrequently consumers making such off-hand calculations will be too optimistic about the attractiveness of the free power available from making their own steam and electric energy.

When steam is required and not able to be purchased there is necessary for the service of the building the installation of a boiler plant, coal bunkers and stacks. There is necessary to be employed the help required for the attend-

1829

ance of the boilers, the maintenance thereon, and often the incremental cost of adding an electric generator with whatever attendance is computed, plus the maintenance thereon, is too inadequately considered by the customer.

Clear thinking is required. The Company, however, by virtue of furnishing both steam and electricity to these consumers, has been able to demonstrate in virtually every case the economy of purchasing both the steam and the electricity from the Company.

The number of establishments in the area served with steam and electricity which generate their own electricity or

1830

a part thereof, is only four, and of these four which generate all or part of their needs only one generates all its needs and this is the Federal Reserve Bank in downtown Cleveland where particular rules requiring complete independence of supply of service made it necessary to generate the power requirements within the building.

Of the three other establishments which generate part of their electric needs one has need for processed steam but buys the electricity in the summertime and at night. Two others

buy electricity in the summertime and generate their own in the winter.

Based on the experience of the Company it may then be said that the operation of the steam utility is invaluable to the electric utility in enabling the electric utility to sell its electric energy to all of its prospective customers or virtually all of its prospective customers. Definite losses in economy of the electric system would result were the steam utility not a part of its operations.

Q. How long have you been in the steam business? A. 1832
Since 1906.

Q. Are all your steam customers also electric customers? A. Yes, they are.

Q. I believe you have testified that through promotional programs and through the natural growth of the business the

presence of isolated generating plants has been eliminated during the course of years in large measure.

Q. That has been true, has it, both as to plants which have produced electricity and as to plants which have produced steam for consumption of the owner on its premises? 1833
A. Yes, that, too, is true. For example, in the area in which the Company supplies steam for heating there are about 17 buildings which operate their own heating plants. Only six of these are of a size greater than two million cubic feet of building volume and all of such buildings buy their total electric requirements.

Three of these buildings have use for large quantities of processed steam, that is steam for use other than heating purposes, in some cases at a pressure higher than is able to be purchased from the Company requiring the need of

1834 *Elmer L. Lindseth—By Respondents—Direct*

a boiler plants to furnish the processed steam from which the steam required for the heating is an incremental product.

Q. Has the elimination of isolated steam heating plants been beneficial to the community? A. Yes. Three principal benefits accrue to the community from elimination of numerous isolated steam heating plants.

For example, the coal economically available to the Cleveland market is generally considered to be a low grade fuel, certainly that fuel which is economically able to be utilized
1835 in an industrial type of heating plant. Atmospheric pollution in a large industrial community is a serious problem.

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The presence of the 600 or almost 600 heating plants which are the alternative to the Company supplying heat and steam for sale to its present 600 customers, would create a very serious atmospheric pollution problem in downtown Cleveland, in the area served by the Company's steam heat plants.

The discharge from these numerous small plants which would be inherently of low efficiency and inherently of such design and restrictions as to not provide for modern dust
1836 and smoke eliminating apparatus, the pollution resulting from these plants would be substantial. The alternative, namely the burning of the required fuel in the plants of the Company, in large boilers efficiently operated and designed for the elimination of smoke and dust, results in a vastly improved atmospheric condition.

Secondly, Cleveland, in common with other large cities, is faced with a problem of substantial traffic congestion. The elimination of the trucks required for the delivery of fuel, the removal of ashes and other incidental operations to a

large number of isolated heating plants is a substantial benefit to the community.

Third, the reduction in the fire hazard resulting from the elimination of a large number of boiler plants in cramped quarters, in basements and sub-basements of buildings, with stacks going through those buildings, is a real and tangible benefit.

—954-A—

Q. Will you describe further the service area in Cleveland served by steam? A. Referring again to Exhibit 21, 1838
the area served by the Company's steam heating division is a compact downtown area of about 9/10 of a square mile. The portion of the map shown as the center of Cleveland and suburbs in which are located the general office building of the Company indicated as point PS, the Canal Road plant indicated by the symbol CN, the Bolivar Road sub-station indicated as BV, the Dodge sub-station indicated as DG, these are in the area served by steam heating.

The scale of this map is about one-third of an inch per mile so that the area served by the Company's steam heating facilities may be considered an area about one-third of 1839
an inch square, circumscribing the four points which I have mentioned. This is downtown Cleveland. It is exclusively a business district and there are but a few streets in the eastern portion of the district in which service is not available. With the few exceptions which I have previously described all buildings in the area buy steam from the Company.

There is one further qualification. Certain of these small electric utilities which are developments of real estate companies such as the Bradley Light, Heat and Power Company,

1840 *Elmer L. Lindseth—By Respondents—Direct*

serving a number of electric customers largely in its own buildings, does serve its own steam customers in similar fashion.

Q. What are the points at which steam is manufactured

—955—

for sale? A. The Company has two steam plants, one indicated on the map as Canal Road plant with the symbol CN, and a second at the opposite end of the system, the northern portion of it, the East 20th Street plant.

1841 Q. How large an investment is represented by this plant? A. The two generating plants of themselves aggregate a little less than $4,000,060, $3,700,000.

Q. Do you know the number of men employed in these generating plants? A. The number is about 120 during the heating season, and during the summer when the heating load is necessarily low the number is about 110.

Q. Isn't your Canal Road plant also used for generation of direct current? A. Yes, it is. The Canal Road plant was the first main generating plant built by the Company and it was from the Canal Road plant that the first steam dis-
1842 tribution lines were constructed. This plant has now been substantially reduced in its electric generating capacity and no longer has the prominence that it had a number of years ago, but as a part of the generation of steam there is associated the generation of electric energy, the steam first going through the electric generator, thence being exhausted to the steam heating system for distribution to consumers.

—956—

Q. So that this plant began as an electric generating plant and was developed as a steam heating plant as well. A. Yes, in 1906 the Company built the first steam heating

line from the Canal Road plant delivering live steam to a neighboring building. During this period the demands on the plant for electric power were very substantial, in fact so substantial that there was virtually no expansion in the steam heating business at all.

By 1910 the Canal Road plant had reached its ultimate capacity of electric generating equipment and shortly after the Lake Shore plant was built. The construction of the Lake Shore plant relieved the Canal Road plant of a substantial amount of electrical load, releasing thereby steam 1844
capacity which could be utilized for steam heating business and from that time on the steam heating business grew very rapidly, taking its output from the Canal Road plant.

Q. What is the steam send-out from Canal Road? A. The aggregate send-out last year from both the East 20th Street and the Canal Road plants was 2,570,000,000 pounds of steam. I don't believe I have a breakdown of this as between the two plants.

Q. Isn't it true that in the economical distribution of steam for either purpose, heating or other purpose, that the distribution can only be for a short distance from the steam 1845
generating plant proper? A. Yes, that is true from two

points of view. One is the economics of the situation which requires that fixed charges be kept to a reasonable minimum, thereby precluding long distance transmission and distribution, and secondly is the loss angle, since steam being transmitted long distances loses substantial amounts of heat energy through radiation outward from the conduits and tunnels.

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Compact high load density areas are virtually the only areas which lend themselves on any large scale to central heating and distribution of steam from central plants.

The steam distribution system of the Company is in part one of high pressure distribution and in part one of low pressure distribution. From the Canal Road plant steam is served to certain portions of the system at high pressure, about 150 pounds per square inch.

The steam so sent out of the plant is used in a number
1847 of buildings in the so-called Terminal area, including the Federal Post Office, one hotel, a department store, a number of office buildings, and a railroad terminal. The group uses about 22 per cent. of the entire steam output from the steam heating department. The rest of the area is served at low pressure and the send-out from the Canal Road plant is from 8 to 18 pounds per square inch.

The output from the East 20th Street plant is at somewhat a variable pressure but generally speaking it is high pressure steam in the range from 130 to about 150 pounds

—958—

1848 per square inch.

Q. You spoke of the second steam generating plant at East 20th Street. Will you describe that plant? A. This plant was built in 1924 when the steam requirements on the Canal Road plant had risen to such a value as to require additional plant capacity. The plant was put into operation in 1925 and is located about three-quarters of a mile east of the center of the city at the extreme northeast portion of the steam heating distribution system, and is built exclusively as a steam heating plant.

The plant comprises six boilers and generates steam at about 175 pounds pressure. Of these six boilers four have

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a capacity of about 130,000 pounds per hour and two have a capacity of about 150,000 pounds of steam per hour. The plant is pulverized coal fired.

Q. Is the plant located by symbol on Exhibit No. 21? A. It is not. This map shows the electric facilities and does not include the second of those plants at East 20th Street. It would be located immediately above the point indicated DG near the shore of Lake Erie.

Q. Is the present steam heating system adequate for the demands placed upon it? A. Yes, it is. The steam heating 1850
load has not grown at a rate at all comparable with the electric load.

For example, the peak load required to be carried in 1939 was 1,045,000 pounds per hour. This was experienced

during the winter of '38 and '39. The peak load in 1940 to date, that is during the winter of '39 and '40, was 1,155,000 pounds of steam per hour on January 19, at an outside temperature of minus 11 degrees Fahrenheit.

The corresponding peak in 1934 was almost identical with the 1940 peak, namely 1,156,000 pounds of steam per 1851
hour. These peaks have been exceeded only in 1936 when the peak was about one per cent. greater, being 1,168,000 pounds of steam per hour. The peak load forecast for 1941 is 1,200,000 pounds of steam per hour.

The capacity of the system or the steam load able to be carried with normal spare allowance for loss of equipment, is 1,320,000 pounds per hour, or a value 10 per cent. in excess of the expected 1941 peak. This capacity is made up of 790,000 pounds per hour capacity from the East 20th Street plant, and 675,000 pounds per hour capacity of the

Canal Road plant, the aggregate of which is corrected by an amount of 145,000 pounds per hour for the loss of the largest boiler on the system at time of peak.

Q. How is steam distributed from Canal Road and East 20th Street? A. The steam heating distribution system comprises a grid or net work of underground lines traversing virtually all of the main and side streets in the areas served. This grid system at any point may be fed from both directions thereby enabling service connections, for example, to
1853 be made to the distribution system without inconvenience to more customers than those immediately adjacent to the point on which work is required.

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The grid system is equipped with a very large number of steam isolating or distribution valves so that by proper operation of these valves individual areas may be isolated for maintenance, repair or construction without the requirement that a substantial number of customers be affected thereby.

Two standards of construction are in use, one the so-called low pressure section where designed pressures are 30
1854 pounds per square inch, and a second section in which design pressures are 250 pounds—design standards are 250 pounds.

Q. Does the demand of the customer determine the pressure which he takes, whether high pressure or low pressure? A. No, that is not the controlling factor. The controlling factors are geographical rather than character or type of load and in the areas served by the low pressure portion of the system, high pressure steam is not available for distribution or purchase. The high pressure area for service, at least so far as controls the purchase and sale of the steam

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at high pressure, is adjacent to the Canal Road plant. That is limited high pressure area.

Q. How many feeders are there running from each of the two generating plants? A. From East 20th Street there

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are two main lines, the feeding and distribution grid, and from Canal Road plant four such lines, one normally operated high pressure and three normally operated low pressure although one of the latter group may be operated high pressure. 1856

Q. Functionally how is the steam heating business conducted as far as personnel of the Company is concerned? A. In general the supervisory personnel of the steam heating department is the personnel which gives a major portion of its time to the electric business. For example, the superintendent of power of the Company who is in charge of the operation of the Company's electrical generating plants, is similarly in charge of the steam heating plants.

The production department which is responsible for the efficiency of operation, economy calculations, studies of allocation of load, forecasting of loads and the like—this de- 1857
partment, too, is a department of the power division of the Company but extends its facilities to the steam heating department as well.

The underground division which constructs and maintains the underground facilities of the steam heating business, likewise is charged with the responsibility for construction and operation of the underground electric lines of the Company.

There is, however, an exclusively steam heating department consisting of a superintendent and a few men, less

than a dozen, which department does contact the steam heating consumers, handles the problem of operation, meter

—962—

reading and similar problems with the steam heating consumers. This department, however, is a division of the Company's service department under the assistant general manager in charge of that department, the major functions of which are electric.

Q. And that small group of men of which you have spoken
1859 is the only collection of personnel, or are the only individuals whose work is exclusively that of devoting themselves to the steam business, is that right? A. Well, I would like to add one qualification to that, namely that in the East 20th Street heating plant all of the employees, although they are subordinate to the superintendent of power who is charged with the responsibility of the electric generation for the system, are wholly engaged in making steam for distribution from the steam heating system, so that there are in the two steam heating plants more than 100 employees who devote substantially all of their efforts to making steam
1860 for the steam heating division, although the superintendent of power is in charge of both such plants.

Q. The superintendent of power being an electrical employee? A. Yes.

Q. Now, how do you forecast steam load or scheduled steam load? A. The anticipation of what the steam requirements will be one day or a week or a month in the future is a problem that has a vital bearing on the economy with

—963—

which the system operates. Likewise it has a substantial bearing on the adequacy of service which will be rendered

by the Company because if the demands for steam are in excess of the capacity provided there will be less than enough steam to go around and general dissatisfaction would result.

On the other hand, if the demands for steam are substantially less than the amount of capacity provided this excess capacity results in loss of economy. Therefore, the forecasting and the accurate forecasting of expected steam loads is vital to the economical operation of the system. This forecasting is done a year in advance of the actual load being experienced. For example, during this month there is 1862
prepared a forecast curve of the load which will be experienced next winter on the steam heating system for all temperatures experienced.

Based on this curve the operating engineer in charge of the steam heating distribution system at the Canal Road plant, makes short range forecasts of the expected temperature and other weather conditions affecting load, principally wind. Each night his engineer, through the United States Weather Bureau reports and radio reports received from the airport weather stations, forecasts the expected temperature for the following morning. 1863

Based on this forecast of temperature the number of boilers to be put on the line is then determined, the number for each of the plants is established and this is the capacity

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for the day's load. Because of the substantial amount of experience that these people have now had in forecasting load and the experience which the engineers have obtained in providing these curves of expected load, it is very unusual for the steam load to deviate from the capacity provided for

1864 by much more than a few per cent. The number of days when the temperature is actually more than two degrees different from the forecast temperature is very small. The accuracy of this forecasting has been developed to a high order.

Q. And whose is the function of making these forecasts? A. The short range forecast, temperature expected the following day, is the duty of the engineer in charge of the Canal Road plant who acts as the load dispatcher for the
1865 steam heating system.

The long range forecasts, namely the load which is expected to be experienced next winter for a given temperature, for example at zero degrees Fahrenheit, that task is the job of the production engineering department to make the long range forecasts.

Q. And is the production engineering department an electrical department? A. Essentially so. It does have in each of the steam heating plants a single man, a member of its department.

Q. And whose is the function of constructing and repair-
1866 ing lines and other steam properties?

The Witness: Will you repeat that question?

—965—

(Pending question read back.)

The Witness: Well, the function of constructing and repairing the lines to the extent that they are the underground distribution lines, that is the duty of the underground department of the Company. Other steam properties, however, such as these steam heating plants, these are built on contract by a construc-

tion firm. Only the distribution and transmission facilities of the Company are built with its own personnel.

Q. The underground department is an electrical department? A. Yes, it is, primarily so.

Q. How are such things as accounting matters and billing for steam service handled? A. The general accounting department of the Company handles the general accounting for the steam heating department as well. The consumers 1868
accounting department of the Company handles the billing for the steam heating department as well. Budgeting, cost control, construction job orders, preparation of income statements and fixed asset accounting for the steam heating division are handled by the Company's general accounting, budgeting and control departments which are in charge of the accounting for the electrical business of the Company as well.

Q. And how about the task of testing equipment, how is that handled? A. The testing of equipment is handled by the Company's production department which is a division of 1869
the power department under the superintendent of power,

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acting through the production engineer.

Q. If your steam business were operated separately would that fact result in increased costs in operation? A. Yes, it very definitely would, because much of the technical and skilled personnel now used by the steam heating department is used but a small fraction of its time in that service. That is, the salaries of the production engineer and the superintendent of power are allocated only in small fraction to

the steam heating division, being primarily required for the electrical division. Laboratory facilities similarly are used only to a very limited extent and are available on an allocated cost basis to the steam heating department.

Q. Does the Company do any business other than its electrical utility business and its steam business? A. No, it does not.

Q. Are its electric business and its steam heating business confined to the territory shown on Respondents' Exhibit No.
1871 21? A. Yes, they are.

Q. Does any distribution or transmission line of the Company cross state lines? A. No, it does not.

Q. Does the Company transmit or distribute electric energy across state lines? A. It does not.

—967—

Q. Does the Company purchase any electric energy which has been generated outside of Ohio? A. Generally speaking, no, but only to the extent that energy might be purchased from a neighboring utility who might indirectly have obtained some such energy from a very obscure and remote
1872 source, would it be possible at all for the Company to ever obtain such energy.

Since the neighboring utility, however, purchases energy from the Company but does not sell, the Company therefore does not buy energy except incidentally as such energy might be reversed in its flow on the lines and it could unwittingly take energy from another utility. The source of such energy from the other utility, since the quantities involved are so small, would have been generated in Ohio.

Q. Do the two subsidiaries of the Company, Power and Light Building Company and the CEICO Company, do any

1873

business other than that to which you previously testified? A. None.

Q. Are the businesses of those two companies, Power and Light Building Company and the CEICO Company, confined exclusively to the territory shown on Exhibit No. 21, Respondents' Exhibit No. 21? A. They are.

Q. None of their business is done outside of the state of Ohio? A. None is.

—968—

1874

Q. Are you familiar with the participation of Cleveland Electric Illuminating Company in various North American System Inter-Company committees? A. Yes, I am.

(Discussion off the record.)

Mr. Hamilton: Will you read the last question and answer?

(The preceding question and answer were read.)

By Mr. Hamilton:

1875

Q. What are those committees? A. The Station Advisory Operating Company, the Inter-Company Electrical Committee, the Accounting Committee, the Purchasing Agents Committee, from time to time a Sales Committee, and numerous less formal contacts.

Q. Does the Cleveland Company receive any benefits from its contacts with these committees? A. Yes, it very definitely does. It receives these benefits from the frank and authoritative interchange of information, including confidential data which would not be revealed elsewhere by the Company.

1876 *Elmer L. Lindseth—By Respondents—Direct*

For example, I was in charge of an inventory and appraisal of the Company's properties in 1939 and 1940 and required certain information from other utilities which I felt would be helpful to me, having to do with certain phases of underground subway data. Because the volume of effort required to furnish the necessary information was substan-

—969—

tial I felt and others in the Company with whom I conferred similarly felt that we were justified in asking only the
1877 member companies of the System represented on the Inter-Company Electrical Committee for this information.

I requested the Company's representative on that committee, the Company's electrical engineer, to obtain these data for me, which he did. The Company obtained such information from no other company, feeling that it could not ask another utility for information of this confidential nature, nor for information requiring such a substantial volume of work for its preparation.

Q. Does the participation of representatives of the Company on these committees contribute to their fund of infor-
1878 mation? Does it have a generally broadening effect on personnel? A. Yes, the Company feels that the benefits derived from its participation in Inter-Company Committee work goes farther than the specific information obtained but goes to the general broadening influence on the particular Company representatives and others in the Company who from time to time attend such meetings.

For example, while never a representative of the Company on the Inter-Company Committees, I have benefitted very materially from the Company's representation on those committees by my having been in attendance at meetings

for the handling of specific problems in which I was concerned in my duties.

—970—

In addition to the special information exchanged and these broadening influences on the personnel, there is a substantial amount of regularly compiled data on operating and design problems which has proved of substantial benefit to the Company.

Such routine data are, for example, circulated in connection with the power generation costs and performance of the 1880
major power plants of the companies represented. Such data as the fuel economy, the B. t. u. per kilowatt hour, are reported routinely each month. Such performance is reported not only on an actual basis which was the experience of the Company, but it is also reported on a standard basis, that is a theoretical basis of efficiency at which the plant should have operated.

The difference between the actual operation and the standard operation is explained in the reports. There are similarly reported such factors involved in power generation as machine-use factor, the distribution of B. t. u. or heat 1881
energy among the various phases of the generation of power, and in addition to these factors there is routinely reported the comparative expense of generation of power segregated as to boiler room operation, boiler room maintenance, boiler room maintenance materials, tools and supplies, similar factors for the turbine room, and numerous other data of value in comparing the excellence of performance of the several plants.

Now, since the guage of thermal performance of a plant is

—971—

in terms of heat units, the source of which is in the fuel, it becomes extremely vital to an accurate comparison of results that the fuel laboratories of the several companies maintain rigorous control of their analytical procedures. In order to achieve this rigorous control each month, in rotative order of the companies, there is sent out representative plant coal samples for analysis by the laboratories of other companies and at periodic intervals for check by the United States Bureau of Mines. The results of these analyses are tabu-
1883 lated in a comparative statement for the Committee and the procedure provides a check not only on the technique of the individual laboratories, but as an indication of the accuracy of the thermal performance reports of the power plants.

In the case of new plant design or construction tentative plans and major decisions are submitted to the Committee for review and discussion, and in the consideration of these matters the combined experience of all companies is contributed.

Simplicity of design, reliability of operation, economy of operation, economy of investment, all these have been
1884 achieved on the Cleveland system in part, at least, because of the exchange of information made available through these committees. The activity goes farther than comparing actual performance and actual design of existing plants.

For example, four or five years ago when there was a very substantial revival of interest in Diesel engines, a consider-

able sales problem appeared from a competitive angle because of lack of adequate information as to the true costs of construction and operation of Diesel engine plants, especially in small sizes for isolated use. As the production engi-

neer for the Company I, personally, made a comprehensive study of Diesel power generation, its initial construction cost and its operating expense, which information was prepared in the form of a report for circulation to the member companies on the committee.

Q. Which committee is this? A. The Station Advisory Operating Committee.

At various times specialists other than the Company's representatives on the Committee attend these meetings for special studies. For example, at a meeting of the committee 1886
held in St. Louis about 1933, a consulting chemist was retained for discussion of a highly technical phase of boiler feed water chemistry and the embrittlement of boilers.

I was at that time in charge of the chemical treatment of boiler feed water and the chemical laboratories for the control of this treatment.

I attended this meeting in St. Louis for consultation with Professor Straub of the University of Illinois who was an outstanding expert in this field.

A third phase of benefits resulting to the Company from participation in activities of this kind is the making avail- 1887
able to all member companies of research and experimental work undertaken or developed at one of the companies. For

example, a comprehensive report on corrosion in the heating system, particularly on consumer's premises, was made available to the Cleveland Company, Cleveland Electric Illuminating Company from the Wisconsin Electric Power Company several years ago, based on which report very substantial improvement in operations was made possible on the Cleveland System.

Frequent inspection trips are made by these committees in the plants of the utilities of the other companies represented on those committees. Corresponding data from the Company's participation in the Inter-Company Electrical Committee covers similar routine and periodic reports on the performance of electrical equipment among the member companies.

For example, there are prepared and circulated at regular intervals growth statistics of use to the companies in forecasting load growth, performance statistics on numerous phases of the Company's apparatus performance such as frequency of circuit trip-outs on transmission and distribution circuits of all voltages, both self-clearing and non-self-clearing, transformer failures, wood pole failures, the frequency with which distribution wires are down, usually expressed as the average number of such cases per year, per 100 miles, cable failures by voltages, and other similar information.

Annual data are likewise circulated on electrical losses on the system, the efficiency of transmission, transformation,

—974—

distribution and conversion. These data are prepared on an annual basis.

In addition to the circulation of data and the discussion phases of these meetings, inspection trips are frequently made to observe new system installations and a number of cooperative investigations or objectives have been studied by either the committee collectively or individuals thereon.

These objectives were assigned to different member companies for study and analysis, and the results made available to the committee representatives. Some of the objective studies which have proved of value to the Cleveland Company have related to the proper voltage to be used for alternating

1891

current distribution, the size of lead to be taken on the system at sub-transmission voltages, the economics of cable salvaging, the economies in repair of distribution transformers, the study of the most economical size and type of D. C. feeder cable for Edison systems, studies of when are automatic alternating current sub-stations justified, and numerous other investigations of a similar character.

In addition to these formal objective studies there is a very substantial amount of interchange of information by correspondence between meetings, which information is usually circulated to all members of the committee, even though in specific response to a request from but one company.

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Very substantial benefit has been achieved by frank dis-

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cussion and free interchange of information on potential hazards in generating plants. For example, in 1925 while the Avon plant of the Cleveland Electric Illuminating Company was being constructed a major shut-down of several hours' duration occurred at one of the power plants of the Union Electric Company of Missouri. The Cleveland Company's electrical engineer, as soon as word was received of the failure, was dispatched to the scene of the trouble and it developed that the cause of the shut-down was from a certain characteristic of design which resulted in the failure, not only of a single pole of a circuit breaker element but by passage of the gas and smoke to other parts of the switch house structure. The initial failure was communicated to other equipment and resulted in the failure as well of the disconnect associated with the oil circuit breaker.

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Based on the experience revealed in this major case of trouble the design of the Avon power plant was materially

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altered to preclude the possibility of similar failure there resulting from the same causes as had prevailed in the St. Louis failure.

In the interchange of pertinent information on advertising and promotional campaigns, data are circulated between the member companies for the use of the Sales and Advertising departments. For example, in the interchange of such information there has been obtained by the Cleveland Company, from others, data of value in its promotional programs

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for commercial, for industrial, and for residential sales.

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Transportation is a very important industry as a consumer of electric energy. The Milwaukee Company, because of its close contact with its Traction Company, has been able to furnish to the Cleveland Company information of substantial value on the economics of trolley bus operation, electric street car operation, which has been helpful to the Cleveland Company in selling its electric energy for street railway use.

Similar information has been obtained from the Potomac Electric Power Company in the financing of electrical appli-

1896

ances, the details of range promotion. The Company has obtained from Union Electric Company of Missouri assistance to our sales engineers in the promotion of air conditioning; for example, since air conditioning in St. Louis was developed at a substantially earlier date than in Cleveland.

There is likewise an exchange or circulation of advance proofs or copies of much of the advertising and sales promotion material and the Cleveland Company scans such material for ideas and ideas applicable to the Cleveland market have been adapted to Cleveland's needs. The material originating in Cleveland has likewise been sent to other com-

panies. This material comprises plan books, direct mail booklets, folders, outdoor display copy, store and window displays, radio programs, newspaper campaigns and similar information.

Q. You have spoken of the interchange of data and reports between companies' members of these committees; is that interchange of benefit to the Cleveland Electrical Illuminating Company? A. It very definitely is.

—977—

Q. It gives you a comparative idea of performance rec- 1898
ords of other large utilities, is that right? A. In a manner which would not be available except through committee representation of this character, because the volume of such information required is substantial, much of it is confidential, and we would not, as a company, feel free to submit such information on such basis, were it not through the committee on which we are represented.

Mr. Hamilton: Off the record?

The Examiner: Yes.

(Discussion off the record.) 1899

Mr. Hamilton: Mr. Examiner.

The Examiner: Do you want this on the record?

Mr. Hamilton: Yes, if I may.

The Examiner: All right.

Mr. Hamilton: This concludes my direct examination at this time, of Mr. Lindseth.

Mr. Browning—my senior in this proceedings—has been laid up with an attack of influenza, and has been in bed for the past few days.

The Examiner: I am sorry to hear that.

1900

Colloquy

Mr. Hamilton: I anticipate that he will be available down here tomorrow evening; subject to acquiescence from the counsel for the Commission, I would like to suggest that the next step in the proceedings be the cross examination of Mr. Lindseth, at the coun-

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sel's convenience.

As soon as Mr. Browning is physically able to go on, he expects to take up the direct examination of the

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next witness and, as I say, I anticipate he would be available tomorrow evening or Wednesday morning.

In any case, he will be ready to start on Wednesday morning, with direct examination. Therefore, the cross examination could fit in at any time, at Mr. Binford's convenience, between now and then.

Mr. Binford: Under those circumstances, Mr. Examiner, I would suggest, if it is agreeable to the Examiner, and to counsel, that, unless it is unduly inconveniencing the witness to stay over, that the cross examination of Mr. Lindseth be set for tomorrow

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morning at ten o'clock.

Mr. Hamilton: I am sure that is convenient for Mr. Lindseth.

The Examiner: Very well. In view of that situation, we will recess this matter until ten o'clock tomorrow morning, for cross-examination of Mr. Lindseth.

(Whereupon, at 11:20 a. m., August 12, 1940, the hearing was recessed until 10:00 a. m. the following day.)

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1903

BEFORE THE

Securities and Exchange Commission

File No. 59-10

IN THE MATTER

of

1904

THE NORTH AMERICAN COMPANY, *et al.*

Hearing Room 1102-A,
Securities and Exchange Commission Building,
Tuesday, August 13, 1940,
Washington, D. C.

1905

Met, pursuant to recess, at 10 o'clock a. m.

Before: W. W. SWIFT, *Trial Examiner.*

Appearances:

(As heretofore noted.)

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PROCEEDINGS

The Examiner: The hearing will come to order.

Whereupon ELMER L. LINDSETH resumed the stand and testified further as follows:

Cross Examination by Mr. Binford:

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Q. You have been with the Cleveland Electric Illuminating Company since 1926, did you testify? A. That is right.

The Examiner: This is the start of cross-examination, Mr. Reporter.

By Mr. Binford:

Q. For how long have you been technical assistant to the president of that corporation? A. Well, the precise date of appointment is, I think, not an established date, for the reason that I had been performing the duties for a substantial time, which I am now performing, and no one prior

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to me had ever been technical assistant to the president.

At a time when we were revising the organization diagram of the Company, in the early part of 1940, we were faced with the problem of defining my duties for the diagram, and I was assigned the title of technical assistant to the president. The office that I occupied at that time I had been occupying since January of 1938, and the character of the

duties I had been performing at that time I had been performing since about January, 1938.

The date, I think, when I said for the record that I took the title of technical assistant to the president, was early in 1940.

Q. What was your official title prior to your assumption of your present title? A. I was assistant to the executive engineer of the Company, who was in charge of all phases of engineering—electrical engineering, mechanical engineering, civil engineering, rates, rate research, statistical work, wire relations with other utilities—I was an assistant to him, one of three such.

Q. Just what was the scope of your activities, in respect to relations with other utilities which you just mentioned? A. The executive engineer it was who was in charge of the wire relations with other utilities. For example, the Cleveland Electric Illuminating Company owns, jointly with the Ohio Bell Telephone Company, the American Telephone and Telegraph Company, the Postal Telegraph Company, the Western Union Telegraph Company, a large number of poles. The joint wire relations department, so called, supervises the ownership and agreements, as between the Cleveland Electric Illuminating Company and other utilities.

This division reports to the executive engineer, an assistant to whom I was.

Q. Those relationships involved allocation of costs among the respective companies served by equipment jointly owned, do they not? A. Those relations involved the buying and selling of interests in such poles.

For example, if the Cleveland Electric Illuminating Company owns the pole on which the Ohio Bell Telephone Com-

pany would like to make an attachment, the Ohio Bell Telephone Company may buy an interest in the pole.

It would then be a jointly owned pole, under a 60-40 relationship percentagewise, or some other relationship.

Similarly, if the Ohio Bell Telephone Company owns the pole on which the Cleveland Electric Illuminating Company would desire to make an attachment, the Cleveland Electric Illuminating Company may buy an interest from the Telephone Company.

1913 The initial title very often is determined by the person who first finds it necessary to erect a pole at the point.

Q. Then maintenance is apportioned in accordance with ownership—that is to say, Maintenance cost—or would that be within the scope of your present or former activities?

The Witness: Off the record.

(Discussion off the record.)

—983—

A. Maintenance of any items of property used for the Cleveland Electric Illuminating Company, for example a head
1914 guy to guy the pole at the top at the point at which the Cleveland Electric Illuminating Company's wires attach, that maintenance is a responsibility of the company owning the guy, which is the Cleveland Electric Illuminating Company.

In the event that the Telephone Company had put some wires or a cable lower down on the pole, as their property, for which they erect a guy to brace the pole at their point of contact, the responsibility for the maintenance of that guy is solely theirs.

The replacement of the pole, which is the usual item of maintenance on a pole, since the ultimate failure is due

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usually to either inherent decay or accidental damage breaking the pole off, that repair is usually only possibly through complete replacement, when a new agreement is again entered into for a joint ownership of the succeeding pole.

Maintenance of attachments is by the party owning the attachments.

Q. There is no treatment of the pole, such as by creosote or any other matter, to preserve its life, is there? A. The pole is initially creosoted, as a protection against decay and attack. That is, the cost thereof is a part of the original setting of the pole.

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Q. But there is no succeeding treatment of the pole as

such prior to its retirement and replacement? A. In the case of the Cleveland Electric Illuminating Company such treatment is only in the experimental stages, where creosoting subsequent to installation is being experimented with, for the arresting of attack by termites or decay.

Q. So that no problem of fractional allocation of costs, other than the cost of the pole itself, is involved in that joint use? A. Well, I wouldn't want to categorically say that they never occur.

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The painting of a pole, for example, at a time subsequent to its initial setting might be such a case.

The precise handling of that I am not at the moment familiar with, but conceivably there would be elements of the character you speak of, that might require the allocation of charges by this joint wire relations division.

Q. Yesterday morning, I believe, you testified that there was but one interconnection of your system—that is to say,

the Cleveland Electric Illuminating Company system—with any other system, is that correct? A. That is correct.

Q. What was the name of the company with which there is such a connection? A. The Ohio Edison Company. At an earlier point in my testimony, I refer to facilities heretofore used, now unused, for interconnection with the Ohio

—985—

Public Service Company, the restoration of which to service would require twenty minutes of work on the part of the
1919 Cleveland Electric Illuminating Company to make the necessary cross connection.

Q. How long has that connection been out of use? A. About five years.

Q. And it has been in use at no time during the past five years, even for temporary intervals? A. None to my knowledge.

The Examiner: Excuse me. I believe that point is to the left of Station LR, is it not?

The Witness: Yes, that is the line——

1920 The Examiner: (Interposing) Exhibit 21.

The Witness: That is the line to which I refer.

By Mr. Binford:

Q. Are you familiar with the territory served by Ohio Edison Company? A. No, I am not.

Q. Do you know roughly what territory it serves? A. Well, within the definition of "roughly", yes, I do.

Q. You know it operates in Ohio, don't you? A. Yes, I know that.

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Q. And at what point would you say the interconnection of the Cleveland Electric Illuminating Company system with the Ohio Edison Company system is located, with reference to Exhibit 21? A. At the point vertically below switching

—986—

station bearing the symbol PV, and known as Pleasant Valley, at the Cuyahoga-Summit county lines.

Q. Do you have any knowledge as to the usual balance—favorable or unfavorable—of the interchange of current at the point of this connection? That is to say, is more current 1922 sold by Cleveland Electric Illuminating Company to Ohio Edison Company than is received back? A. Very definitely so. The Ohio Edison Company is a customer of the Cleveland Electric Illuminating Company and takes a firm power commitment throughout the day. Any reversal of flow would be incidental and momentary, due to disruption of the normal flow of current.

Q. Are you prepared to state approximately how much electric energy is sold to Ohio Edison Company by Cleveland Electric Illuminating Company at any particular recent period or within any particular recent period? A. Well, the 1923 flow is normally four thousand kilowatts to the Ohio Edison Company.

Q. During what period? A. The interconnection is throughout 24 hours of the day—normally throughout 24 hours of the day.

Q. You know, do you not, that the Ohio Edison Company is part of the so-called holding company system of American Gas and Electric Company? A. No, I do not know that.

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Q. Do you know anything about the interconnections of the Ohio Edison Company with other companies, of your own general knowledge? A. Only from what I had seen from maps of the interconnected system and from discussion with other engineers of such interconnection.

Q. Isn't it a matter of common report and common understanding that the Ohio Edison Company is a part of the American Gas and Electric Company system? A. No, that is not a matter of common knowledge in Cleveland or in

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Ohio.

Q. Not in the engineering fraternity? A. No. That is not known to any engineer that I am acquainted with.

Q. And you don't know that to be true? A. I know that that is not true.

Q. You know that it is not true? A. Yes.

Mr. Binford: Mr. Examiner.

The Examiner: This is off the record?

Mr. Binford: Off the record.

(Discussion off the record.)

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The Examiner: We will take a 15-minute recess.

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(Whereupon a short recess was taken.)

The Examiner: You may proceed.

By Mr. Binford:

Q. I think I have been under a misapprehension, myself, in my questions in regard to the Ohio Edison Company

Do you know whether or not the Ohio Edison Company is a member of any group of companies, known as a holding company system? A. Yes.

1927

Q. Do you know what that system is known as? A. Commonwealth and Southern.

Q. Commonwealth and Southern? A. Yes.

Q. Do you know whether or not the Ohio Edison Company has physical interconnections, by which an interchange of electric current and power takes place between the system of that company and the systems of other companies? A. I do not know whether interchange of power actually does take place, but I do know of the presence of interconnections over which the flow of power might take place.

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Q. Don't you know, as a matter of fact, that there are interconnections, or successive interconnections, by which that company's system—that is to say, the Ohio Edison Company's system—is directly or indirectly connected with lines serving territory as far apart as Northern Indiana and

North Carolina?

Mr. Hamilton: Mr. Examiner, if I may interpose, this witness is not an employee of the Ohio Edison Company, and it seems to me that this is going a little far afield. I don't want to object to it if the scope of the questioning is somewhat limited, but I do feel that, if we are going to conduct an investigation into the affairs of the Ohio Edison Company, we really need another witness.

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Mr. Binford: Mr. Examiner, I am going to ask an expert opinion.

The Examiner: The question was if he knew that. If he knows it, I think the question is proper. I will overrule the objection.

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The Witness: Will you read back the question?

(Whereupon the pending question was read by the Reporter.)

The Witness: Well, my answer again is I do not know whether Ohio Edison is directly or indirectly so connected, but I know of the presence of facilities through which it might be so connected.

I am, obviously, not familiar with details of operation, but the presence of physical property can not change so quickly as can the operation thereof.

1931

By Mr. Binford:

Q. You know the physical properties adapted for the transmission of electric current exist, with relation to this

—990—

company and companies over areas in various states, do you not? A. Yes, I know that.

Q. Crossing state lines? A. Yes.

Q. And you sell current to the Ohio Edison Company?

1932 A. Yes.

Q. So that the current produced by your system, in part, goes into transmission lines which are part of physically connected transmission lines crossing state lines, is that true?

The Witness: Will you read back that question?

(Whereupon the pending question was read back by the Reporter.)

The Witness: Well, again I must answer that I, of my knowledge, know nothing of the actual state

of those connections, being an operating problem, but the possibility of such connections I do know of.

Q. In other words, you have never seen any meters or looked upon any other instruments which show the current of those connections? A. My position is only this, that the presence of a physical facility for the interchange of power is no evidence of the flow of such energy.

I know of the presence of such physical equipment, but I

—991— 1934

can not testify as to the direction of flow or the fact of flow.

Q. On the other hand, would you be able to state under oath that none of the energy generated in your system goes into interstate flow of electric energy? A. You want this under oath?

Q. Yes.

The Witness: Will you read back that question?

(Whereupon the pending question was read by the Reporter.)

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The Witness: This question presupposes an ability to identify a unit of energy transmitted by us to a neighboring utility.

Mr. Binford: I don't necessarily adopt your interpretation of the question.

The Witness: Will you repeat that? Will you read that back?

(Whereupon the last statement of Mr. Binford was read by the Reporter.)

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The Witness: But I have no way of answering it except in accordance with my interpretation, unless you want to interpret it for me. Will you interpret what you mean by a flow of energy?

By Mr. Binford:

Q. Can you state definitely at this time that none of the energy generated in the Cleveland Electric Illuminating Company's system flows into the channels of interstate

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—992—

transmission?

If you can't definitely state that to be a fact, all I want you to do is say so. A. The amount of energy supplied by the Cleveland Electric Illuminating Company to Ohio Edison Company, under normal conditions is but a small fraction of the requirements of the City of Akron. The point of delivery is at South Akron.

The amount of such energy is but a very small fraction of the total requirements of the Ohio Edison Company in the

1938

State of Ohio.

Since this point of supply from the Cleveland Electric Illuminating Company to the Ohio Edison Company is at the northwestern terminus or substantially that, of the Ohio Edison System, I believe I can say that no energy supplied by the Cleveland Electric Illuminating Company, under normal circumstances, flows in interstate commerce, but is consumed in the State of Ohio.

Q. On the same theory, I suppose you would say that, if a spring supplies water to a reservoir in the north end of a large reservoir, and a village is supplied from that reser-

voir at the same point, consuming a larger amount of water than the water supplied by the spring, that you would feel safe in saying that none of the water supplied by the spring would be found in the south end of the reservoir—is that the same type of reasoning? A. No. That is a fallacy of bad

—993—

analogy, for the reason that a spring, feeding a reservoir, might be discharged into the opposite end of that reservoir by an infinite number of routes.

For example, it may go along the north border and down 1940
the south, or it may go along the west border and—excuse me. Way back there, it is the "north border and the east" and then later on "the west border and the south"—but in the transmission of electrical energy, we are talking about a clearly defined path without alternative.

The analogy might be better from the spring to the village, were there a pipe of finite capacity, and the spring discharging into the pipe a small amount of water—say one gallon per minute—but that intermediate between the spring and the village there were a take-off line removing five gallons per minute from the pipe, the analogy would then be 1941
that all of the one gallon were taken off at the five gallon take-off point.

Q. There is more or less of an ebb and flow, or reversal of current occasionally in transmission lines, however, isn't there? A. In our system, only under abnormal conditions. The Ohio Edison Company is a customer and we strive, with rather precise equipment and high speed control, to insure the continuity of that supply to them at a uniform value.

—994—

It is an abnormality that results in a reversal of flow.

1942 The Examiner: Yesterday counsel for Respondent asked you if energy which your company distributed—any of it—came from outside areas, across state lines, and, as I recall your testimony, you said that, in sending out energy to your interconnection on the south, there was some possibility of return current seeping into the Cleveland Electric Illuminating Company. Is that right?

1943 A. That is right. That is this abnormality to which I now refer.

The Examiner: Now, isn't the question which Mr. Binford propounded to you a similar question, only it is approached from a different angle?

The Witness: No. I think, rather, Mr. Binford is asking about the disposition of the energy.

The Examiner: Yes.

The Witness: Rather than the source of the energy that we buy.

1944 The Examiner: Well, do you differentiate between the two questions that were asked you, one by Respondent's counsel and one by Commission's counsel? They seem to me to be of similar import.

The Witness: (Handing a document to the Examiner and indicating.)

—995—

The Examiner: Well, is there any difference in the two questions propounded to you by the two lawyers?

The Witness: Off the record a minute.

(Discussion off the record.)

The Examiner: I might ask this witness, will he explain the difference in the two questions and his answers to those questions.

The Witness: The question which I answered yesterday, in direct testimony, was this:

"Does the Company purchase any electric energy which has been generated outside of Ohio?" 1946

The answer to that question was this:

"Generally speaking, no, but only to the extent that energy might be purchased from a neighboring utility, who might indirectly have obtained some such energy from a very obscure and remote source would it be possible at all for the Company to ever obtain such energy.

"Since this neighboring utility, however, purchases energy from the Company but does not sell, the Company therefore does not buy energy, except 1947 incidentally as such energy might be reversed in its flow on the lines, and the Company unwittingly take energy from another utility.

"The source of such energy from the other utility, since the quantities involved are so small, would have been generated in Ohio."

—996—

Today's question related to the disposition of energy sold by the Cleveland Electric Illuminating Company to the Ohio Edison Company——

Will you read that question again?

(Whereupon the pending question was read back by the Reporter.)

The Witness: (Continuing) —and asked whether I could state that none of the energy generated in the Cleveland Electric Illuminating Company's system goes into interstate flow of electric energy.

My answer to this question is that the energy sup-
1949 plied by the Cleveland Electric Illuminating Company to the Ohio Edison Company is delivered at South Akron.

Further than this, the energy generated within the City of Akron is inadequate to meet the requirements of Akron and vicinity, so that, from sources other than the Cleveland Electric Illuminating Company, there is also transmitted into Akron substantial amounts of energy.

Based on these facts, then, it is my judgment that energy normally sold by the Cleveland Electric Illu-
1950 minating Company to Akron, in the amounts which I have described, does not go into interstate flow of electric energy.

By Mr. Binford:

Q. Mr. Lindseth, you were present at some of the earlier sessions of the hearings in this matter, at which Mr. Lank—

—997—

an engineer of the Potomac Electric Power Company—testified, were you not? A. Yes.

1951

Q. Were you present at the time he testified relative to the several committees of representatives of operating companies within the North American holding company system? A. Well, I am not sure that I was present at all those sessions, no.

Q. You read his testimony in regard to those committees, did you not? A. No, I am not sure that I have read his testimony in regard to all those committees, no, I am not sure of that.

1952

Q. You are not familiar with the testimony given by him with regard to those committees? A. No, I don't believe I am.

Q. On direct examination, you testified at some length as to the activities of the several committees of the type indicated, which you identified in your testimony. Immediately prior to your testimony in that respect, I presume you refreshed your recollection as to the activities of those committees, is that correct?

The Witness: Will you read back that question?

1953

(Whereupon the pending question was read back by the Reporter.)

The Witness: Yes, that is correct.

—998—

By Mr. Binford:

Q. Some of your testimony, I presume, was from your own knowledge and recollection? A. That is correct.

Q. When did you last attend a meeting of any of these several committees which you identified? A. About 1935.

1954 Q. What was your position with the Cleveland Electric Illuminating Company at that time? A. I was production engineer.

Q. What was that committee, the meeting of which you attended in 1935? A. The Station Advisory Operating Committee.

Q. Have you ever attended a meeting of any other of the several committees which you have described? A. No, I have not.

1955 Q. You have not read over the testimony of Mr. Lank upon cross-examination, with relation to the activities of these committees? A. No, I have not.

Q. Or Mr. Thielscher, who also testified here? A. I have read the testimony of Mr. Thielscher—or parts thereof. I wouldn't vouch for having read it all.

Q. Mr. Thielscher, I believe, testified that he was a mechanical engineer in the employ of the Potomac Electric

—999—

Power Company, and as such familiar with certain activities of certain of these committees. Is that your recollection?

1956 The Witness: Will you read back that question?

(Whereupon the pending question was read back by the reporter.)

Mr. Binford: If the witness isn't certain as to the answer to that question, I would substitute this question:

By Mr. Binford:

Q. You know, as a matter of fact, do you not, that Mr. Thielscher is a mechanical engineer in the employ of the

1957

Potomac Electric Power Company, in which capacity he testified here in this proceeding? A. Except that I don't know that "mechanical engineer" is his title, but I do know that he represents the Potomac Electric Power Company on the Station Advisory Operating committee.

Q. I was speaking of his profession rather than his title.

Do you agree with Mr. Thielscher's view that, even were the stock ownership of the several companies represented in the Station Advisory Operating Committee wholly divorced, yet the same technical benefits would accrue to the respective companies from a continuance of these committees and their activities?

1958

Mr. Hamilton: May that question be read back, please?

—1,000—

(Whereupon the pending question was read back by the reporter.)

Mr. Hamilton: Mr. Examiner, I will have to object to that question, because I don't think it correctly states Mr. Thielscher's views expressed in the testimony.

1959

Mr. Binford: I think it does.

The Examiner: Off the record.

(Discussion off the record.)

Mr. Binford: In view of Mr. Hamilton's objection, but without conceding its validity, I will add to the question to the witness:

1960 *Elmer L. Lindseth—By Respondents—Cross*

By Mr. Binford:

Q. My question presupposes that there could be a continuance of the activities of these committees and their members, among themselves, in the same manner and with the same freedom that they are carried on now.

In other words, I am not asking the opinion of the witness as to whether or not, if there were no single rate stockholder holding stock in each of these companies, the arrangement would be likely to be carried on or not, but my ques-
1961 tion is directed to the point of whether, if such activities could be carried on in the absence of holding company control, if the same technical benefits would not accrue to the companies as accrue at the present time.

Mr. Hamilton: Now the question has been phrased and rephrased two or three times in counsel's last

—1,001—

statement. May I ask: Is the witness to assume that the conditions to be assumed in his expression in the first restatement are also the conditions to be assumed
1962 on the second restatement of the question?

Mr. Binford: Yes, sir.

The Witness: Will you read back the last part of Mr. Binford's question, which begins, "My question is directed to whether—" and so forth?

(Whereupon the pending question was read back by the reporter.)

The Witness: Well, in spite of the desire of Commission counsel that this question be answered without regard to the premises, I don't believe that the

question can be so answered, because the premises are impossible; being impossible the question is moot.

—1,002—

By Mr. Binford:

Q. Would the sale by the North American Company of all of its stock interests in Potomac Electric Power Company affect the validity and the usefulness to your company, the Cleveland Electric Illuminating Company, of any fuel analyses made in the laboratories of Potomac Electric Power Company of fuel for your company? A. Again we have a 1964
hypothetical question asking for me to express an opinion about a set of circumstances which have not occurred and are purely in the realm of speculation.

Q. Precisely. A. Do you want me to speculate?

Q. I want you to speculate in the light of your expert knowledge and give your expert opinion on this particular question. A. A number of questions here have been premised on a hypothetical situation which would prevail were there to be certain very major readjustments in the ownership of these properties. It is my opinion that were these hypotheses about which Commission's counsel has asked me to speculate 1965
to take place, that there would not be the same community of interest existing among these several companies as now exists by virtue of this community of ownership.

That is, the work of these committees is a substantial work. The getting out of these reports is tedious. The benefits are substantial, yet they are not without a real sacrifice

—1,003—

in expense and effort on the part of the companies.

Specifically he has asked me in the matter of the analysis of coal. This requires the preparation of samples by the

several companies, analyses under unusual conditions in the laboratories, some disruption of normal procedure, all of which are cheerfully tolerated when there is this community of interest and the full realization of the benefits, but under the hypothesis of Commission's counsel that this community of interest be lost then it is my judgment that there would occur a time when under the rush of other business or the stress of adversity this job just would not be done and committee work would come to the same pass that
1967 it often comes in engineering societies, in other technical committees, where the representatives on the committee say "Well, it isn't worth it. We will drop it."

So, the answer specifically to Mr. Binford's question in this realm of speculation which he has asked me to explore, is that those benefits would not be continued.

Q. And you would not consider it to the interest of the several companies that they be continued? A. In my judgment it would be in the interest of the several companies to have this continuance, but I would be very reluctant to think they would be made to succeed; their value would be
1968 just as great could they succeed, but I am quite certain of my belief that they could not be made to succeed without this community of interest. The premises of these questions have been impossible.

—1,004—

Q. You speak of community of interest; do you mean community of control? A. By this community of interest I refer to this situation that the advantages derived from mutual cooperation among the several members of the committee accrues to the benefit of all companies in a financial way. This is a selfish interest. This is not a desire to add

to the fund of human knowledge, per se. This is not a desire to indulge in pure science as an end in itself. This is an effort to derive substantial economies in operation by virtue of this community of interest or this unity of ownership.

Q. Now, you think that that motivation would disappear upon the part of the management and officials of these several companies if they were responsible to scattered security holders rather than to scattered security holders plus an outstandingly large holder of common stock common to all of them, is that true? 1970

The Witness: Will you now read that back?

(Pending question was read.)

The Witness: The difference in the present situation and the hypothetical situation posed by this question is this: Under the hypothetical situation there would be an earnest desire on the part of every representative to derive all the benefits he could, sure; that is only natural and human nature. The weakness of the picture lies in the extent to which those participants would be willing to, at some sacrifice in 1971

—1,005—

time and expense, contribute to the efforts of the committee knowing that the benefits therefrom were to accrue to a company disassociated in its ownership.

By Mr. Binford:

Q. However, under the present arrangement isn't it true that insofar as the public security holders, by which I mean the security holders other than the North American Company and the Cleveland Electric Illuminating Company are con-

cerned, the Cleveland Electric Illuminating Company does expend money and the time of its experts and employees, which represents money belonging in part to these public security holders, for the benefit of the Potomac Electric Power Company in which such security holders may have no interest at all?

Mr. Hamilton: I think counsel means Cleveland Electric Illuminating Company.

Mr. Binford: Read the question.

1973

(Pending question was read.)

Mr. Binford: In that the Potomac Electric Power Company is one of the other members of this group which cooperates through committees.

Mr. Hamilton: That question is a little puzzling to me as now framed. I wonder if the stenographer would mind reading it back once more with the amendment just added.

(Pending question and amendment read back.)

—1,006—

1974 The Witness: I am of the opinion that the Cleveland Electric Illuminating Company now, and for a long time in the past, has received benefits from its inter-company committee participation in excess of the cost thereof. That is, while we have contributed substantially we have received benefits several times greater. We hope that we have contributed to this committee effort in such amount and of such quality that there has resulted benefit to the stockholders of the Potomac Electric Power Company.

1975

I am, however, not of the belief that without this mutuality of interest, this community of interest, to which I have referred, that in the long range picture we would be willing to continue the extent of these contributions. That these contributions have been of benefit to stockholders of other associated companies goes without saying almost. The Company has no reluctance for its contributions, feeling that these have been repaid many times.

1976

By Mr. Binford:

Q. So that if you continue to occupy your present position with Cleveland Electric Illuminating Company at a time when that company has ceased to be a part of the North American System, you would not recommend the continuance of the community activities to which you have testified?

The Witness: Will you read that question, please?

(Pending question read back.)

The Witness: That is not at all the case, nor is that a valid assumption from what I have said. I have previously testified that it would be with considerable

1977

—1,007—

reluctance that I would recommend the continuance of these committees, well realizing the benefits that we now derive therefrom and the loss which would accrue to the Company in the event those benefits were to cease, but I would be decidedly pessimistic as to the success of this activity without the guidance of a strong stockholder. With the community of interest missing, the success would be far less assured.

1978 *Elmer L. Lindseth—By Respondents—Cross*

Mr. Hamilton: Would you read that answer back again?

(Last preceding answer read back.)

By Mr. Binford:

Q. Then, would it be a fair statement of your opinion that the managements of these several companies in the North American System are primarily guided in their expenditure of funds and in their activities, particularly in relation to
1979 the committees which we have been discussing, by the general interests of their respective largest voting stockholders throughout all its investments rather than by the interests of investors in general of the particular operating company of which that happened to be in charge?

Mr. Hamilton: I don't know as the witness has been qualified to testify as to what the management of other companies might conclude.

Mr. Binford: He is expressing an opinion as to what would happen and what they would do if certain motivation were removed. I would like him to clarify
1980 —1,008—
it.

Mr. Hamilton: I am not objecting to the question. I am merely pointing out the vagueness of the premise.

The Witness: Will the stenographer read back the question commencing, "Would it be a fair statement of your——"?

(Indicated question was read back.)

The Witness: I am answering this question from the point of view of the Cleveland Electric Illuminating Company management alone.

1981

We, as a company, are convinced that the values derived from these committees is substantial. We are convinced that the expenditure of time and effort of the employees and other out-of-pocket expenses is repaid many times by the benefits derived. In considering the relative value of the benefits and the expense or cost thereof, we are concerned not with whether stockholder A or stockholder B benefits specifically therefrom, we are concerned with the welfare of the Company.

1982

Those of us engaged in private business develop a philosophy toward our company. It is an end in itself to be worked for. The judgment of management is very often governed by the single criterion, "Will this be good for the Company?" in determining the economics of an expenditure, not "Will it be good for stockholder A who owns a part of that company?" and not "Will it be good for stockholder B who owns a part thereof?" but rather, "Will it be good for the Company?"

—1,009—

1983

Incidentally, of course, prosperity for the Company means return for the stockholders therein. It is the position of the Company, however, which controls in a choice such as this. However, in considering the expenditure of effort by company A for the benefit of company B, when the immediate prospect in that minute effort might be an excess of expenditure by the original company in excess of benefits derived, weight must just humanly be given to such a decision if it is known that there be a mutuality or a community of interest between company B and company A.

1984 *Elmer L. Lindseth—By Respondents—Cross*

This is only a discourse into human nature. There is no engineering or philosophy of economics involved in a question such as that.

Q. You spoke, in your direct testimony, of a number of rate reductions effected by Cleveland Electric Illuminating Company to its customers as voluntary rate reductions. Were any of those rate reductions approximately contemporaneous with the expiration of a franchise in a particular community? A. No.

1985

Q. They were truly voluntary in each case? A. As I testified in the matter of regulation in Ohio, the primary regulating power is in the City Councils under the provision of Home Rule. Some of these reductions were contemporaneous with the expiration of rate agreements or contracts with such municipality without involvement of a franchise. The rate agreement between the Company and each of the

—1,010—

cities it serves is for a fixed period, not in excess of ten years. Some of these reductions were contemporaneous with the time for renewal of such rate agreements or contracts.

1986

Q. Did any of the reductions precede by more than a few months the time at which a new agreement would have to have been reached? A. Yes, such voluntary reductions did so precede the expiration of ordinance periods. For example, the Company in 1933 made a voluntary reduction and got an extension of its existing agreement until 1939 as a result thereof, or as a corollary thereof. By 1937 at a time when the agreement had two years to run there was made a further voluntary reduction on the part of the Company in substantial amount.

1987

Q. Now, you also testified as to the reason for organization of Power and Light Building Corporation, substantially to the effect, as I recall it, that when that corporation was organized it was believed that the building to be owned by it would not be occupied wholly by Cleveland Electric Illuminating Company, but a certain portion of it would be leased or rented to others which was beyond the scope of the activities of Cleveland Electric Illuminating Company. Is that substantially correct? A. Yes, that is substantially correct.

1988

Q. But I believe you further testified that later Cleveland

—1,011—

Electric Illuminating Company became the tenant of the entire building. A. That occurred about 1923.

Q. Since that time has Cleveland Electric Illuminating Company occupied the entire premises, that is to say to the exclusion of other tenants? A. As the sole tenants, yes.

Q. It is mere inertia that has kept the separate corporate organization of Power and Light Building Corporation? A. That might be the case, yes; ennui.

1989

Q. But so far as you know, no useful purpose at the present time is served by the continuance of that corporation as a separate entity? A. None to my knowledge as a separate entity.

Q. Is any portion of the property owned by that corporation included in the rate base of the Cleveland Electric Illuminating Company? A. Will you define what you mean by the rate base?

Q. That is included in the property which is used as a basis for the computation of the rates, or the rate schedule

1990 to be used by Cleveland Electric Illuminating Company. A. Computed by whom now?

Q. Such regulatory bodies as have juri: iction or exercise jurisdiction over the fixing of rates. A. In the report of the engineers submitted on behalf of the Council of the

City of Cleveland on July 17, 1939, and which was used as a basis for an ordinance introduced in the Council of the City of Cleveland to fix the maximum rates of electricity to

1991 be charged by the Cleveland Electric Illuminating Company, neither the cost nor the value of that building was included.

The rent paid by the Cleveland Electric Illuminating Company to the Power and Light Building Company in an amount of $40,000 per year was included as a deductable operating expense in determining return, but such rent in the amount of $40,000 is adequate only for three purposes: (A), the payment of taxes; (B), the payment of insurance; and (C), allowance for depreciation.

There is no rate of return included in the $40,000 of rent paid by the Cleveland Electric Illuminating Company to

1992 Power and Light Building Company, so that its inclusion in the determination of the rates for the City of Cleveland contemplated no return thereon, even though the book cost thereof is about of the order of $1,100,000.

Q. No return for the ownership of the corporate stock of that company by Cleveland Electric Illuminating Company as distinguished from the physical property of the subsidiary company? A. Well, under these circumstances there are obviously no dividends to be paid on the stock which the Cleveland Electric Illuminating Company owns in the Power and Light Building Company, so that as of the year being

studied, 1938, the rent allowed by the engineers for the city

—1,013—

in fixing rates was inadequate to cover any return on the investment of the Company in Power and Light Building Company.

Q. That investment as such, though, was not given a value which was considered in the light of a capital investment? A. Not at all.

Q. If that property should be held directly by Cleveland Electric Illuminating Company without the intervention of 1994
a subsidiary corporation, do you know whether it could be considered as properly such a part of the property plant investment of the Company as to be taken into consideration in the fixing of rates? A. In my judgment it could be very properly that. It is devoted solely to utility service for the use and convenience of the customers of the Company.

Q. Are you a member of engineering societies? A. I am a member of the American Society of Mechanical Engineers and the Cleveland Engineering Society.

Q. Are you active in those organizations? A. Within
modest limits of what constitutes being active, I am active in 1995
the American Society of Mechanical Engineers, but not in the Cleveland Engineering Society.

Q. There is some interchange of technical information among the members of such societies, is there not? A. Yes, there is.

Q. There are engineering and other technical periodicals

—1,014—

and publications available to you in which recent developments in your field of work are treated, are there not? A. Within the limits of the definition of "recent"; "recent" as defined as shortly after the fact, very rarely before the fact.

1996 *Elmer L. Lindseth—By Respondents—Cross*

Q. Among the subjects of periodic discussion by special or standing committees within the North American System, is there included public relations?

Mr. Hamilton: What was that question?

(Pending question read back.)

The Witness: Public relations for an electric utility comprises every move we make. For example, in the design of the power plant now being constructed
1997 at East 70th Street, from a point of public relations purely there is being installed a very considerable dust arresting equipment from the stacks to reduce atmospheric pollution.

There is a case where the engineer in charge of the design and construction of a power plant makes a very substantial expenditure of money on behalf of the Company for the reduction of atmospheric pollution because we feel that it is in the interest of Cleveland that that atmospheric pollution be reduced.

Now, this is typical of every act which controls
1998 every thinking employee of the utility, whether he be a meter reader, whether he a trouble man, a line construction man, an underground foreman, a truck driver, an advertising man, or a publicity man.

So that the answer to the specific question, whether among the subjects for discussion is there included

—1,015—

public relations, is that the accounting committee in its discussion of bill collection policies and procedures is motivated in very large measure by public relations. The advertising department of our Company, in looking over advertising submitted by other member com-

panies for ideas, is well alert to the advantages which may be obtained therefrom to improve public relations.

Similarly our power engineers are constantly alert for means to improve public relations within their sphere. The answer to your question, then, is that every act is unquestionably analyzed consciously or subconsciously from its public relations angle.

Q. The answer to the question then, is "Yes"? If you were required to answer "Yes" or "No", your answer would 2000
be "Yes", is that right? A. That isn't a question amenable to a "Yes" or "No" answer. Public relations is not a thing which can be bandied about like a ton of coal or a load of bricks. Public relations is a philosophy of management of a company and it is a philosophy of operation of that company and that question "Do you discuss public relations?", as though it were Item IV on the agenda—"What are we going to do for public relations today?"—that question is not amenable to a "Yes" or "No" answer.

Mr. Binford: No further questions. I reserve the same right with respect to this witness to recall him 2001
for examination although I intend no further exam-

ination at length, as reserved heretofore in respect to the other witnesses.

Mr. Hamilton: And as in the case of other witnesses, Mr. Examiner, we do not concede the general reservation of the right to cross examine for the reasons and on the basis indicated previously.

The Examiner: Well, that brings up the question of who will pay the expense of this witness to bring

2002 *Colloquy*

him back. I think counsel for the Commission ought to finish his cross examination while he is here. If it occurs to him later on and he needs to recall him, then we will have to take up the question of who is going to pay the expense of bringing him back here but until that question arises we won't debate it and I won't pass on it.

Mr. Hamilton: Mr. Examiner, as I have indicated previously to counsel for the Commission, Mr. Brown-
2003 ing is still ill and I don't anticipate now that he will be able to get to Washington until Wednesday night at the earliest. I understand that counsel is willing that the testimony of the next witness be taken up on Thursday morning under the circumstances.

Mr. Binford: I agree with that. I understand that if it unfortunately develops that Mr. Browning still can't be here, that Mr. Hamilton will be ready to go ahead with the next witness at that time.

Mr. Hamilton: If Mr. Browning isn't available on next Thursday I will expect to go ahead myself, but it
2004 so happens that the next witness' testimony involves

—1,017—

phases of the case which at this time I am not familiar with. However, under those circumstances I will go ahead on Thursday if Mr. Browning is not available.

The Examiner: Very well, we will continue this matter until Thursday morning at ten o'clock a. m.

(Whereupon, at 12:00 o'clock the hearing was adjourned to reconvene Thursday morning, August 15, 1940, at 10:00 a. m.)

—1,018—

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Vol. III

TRANSCRIPT OF RECORD

Supreme Court of the United States

OCTOBER TERM, 1942

No. ~~721~~ 1

THE NORTH AMERICAN COMPANY, PETITIONER,

vs.

SECURITIES AND EXCHANGE COMMISSION

ON WRIT OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE SECOND CIRCUIT

PETITION FOR CERTIORARI FILED FEBRUARY 10, 1943.

CERTIORARI GRANTED MARCH 1, 1943.

United States Circuit Court of Appeals

FOR THE SECOND CIRCUIT

October Term, No. ——

THE NORTH AMERICAN COMPANY,

Petitioner,

v.

SECURITIES AND EXCHANGE COMMISSION,

Respondent.

TRANSCRIPT OF RECORD

TESTIMONY

Volume III

(Pages 669 to 1102)

ON PETITIONS FOR REVIEW OF ORDERS OF SECURITIES AND EXCHANGE COMMISSION

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2005

BEFORE THE

Securities and Exchange Commission

File No. 59-10

IN THE MATTER

of

2006

THE NORTH AMERICAN COMPANY, *et al.*

Hearing Room 1101,
Securities and Exchange Commission Building,
Thursday, August 15, 1940,
Washington, D. C.

2007

Met, pursuant to recess, at 10 o'clock a. m.

Before: W. W. SWIFT, *Trial Examiner.*

Appearances:

(As heretofore noted.)

2008 *Charles F. Schaber—By Respondents—Direct*

PROCEEDINGS

The Examiner: Are you ready to proceed?

Mr. Browning: Yes.

The Examiner: The hearing will come to order.

Mr. Hamilton: Mr. Schaber.

Whereupon, CHARLES F. SCHABER called as a witness on behalf of the Respondents, being first duly sworn, was exam-
2009 ined and testified as follows:

Direct Examination by Mr. Hamilton:

Q. Would you give your name, please? A. Charles F. Schaber.

Q. Your address? A. Bucyrus, Ohio.

Q. Were you formerly a member of the Public Utilities Commission of Ohio? A. I was.

Q. For what period? A. I became a member of the Ohio Commission in January 1933, and served until the first of February 1939.

2010 Q. And, during that period, did you serve as Chairman of the Commission? A. I served as Chairman of the Commission the last two years of that period.

—1,020—

Q. Prior and subsequent to the period of your service as a member of the Commission, were you engaged in the practice of law? A. I have been engaged in the practice of law in Ohio since 1901. I practiced before I went on the Commission, and then engaged in general practice since I retired from the Commission.

2011

Q. In what year did regulation of electric utilities by the Public Utilities Commission of Ohio begin? A. The first enactment, creating commissions for regulation of utilities generally, including electric utilities, was in 1911. At that time the Ohio Public Service Commission was created and a year or two after that the name was changed to the Ohio Public Utilities Commission—or, rather, the Public Utilities Commission of Ohio.

Q. Will you describe the extent of the Commission's staff? A. Well, in recent years, during my term of service, 2012
we had approximately 90 official employees. They consist of clerical force, engineers, accountants, investigators, and inspectors.

Q. In what respects does the Public Utilities Commission of Ohio regulate electric utilities in the state? A. Well, that is a broad question. The statutes of Ohio confer the power upon the——

—1,021—

Mr. Binford: Mr. Examiner, I object to any statement by the witness as to what the statutes of Ohio provide, in view of the fact that such statutes them- 2013
selves are the best evidence of what they provide.

A stipulation was entered into at the beginning of this case, that the laws of the several states, as they may enter into consideration of this case, relating to public utilities and regulation thereof, might be officially noticed by the Commission, which stipulation, I believe, was suggested by counsel for Respondents and assented to by me.

In view of that fact, I insist on the objection to any statement as to what the laws provide, on the

2014 *Charles F. Schaber—By Respondents—Direct*

ground that that is not the best evidence, and the best evidence is already by stipulation officially before this Commission.

Mr. Hamilton: Mr. Examiner, my question didn't relate specifically to what the statutes may or may not provide.

Mr. Binford: My objection is not to the question; my objection is to the statement of the witness.

2015 *By Mr. Hamilton*:

Q. I would like to have the witness describe, if he will, what, in fact, the Public Utilities Commission of Ohio does in respect to regulation? A. Well, the Ohio Commission has prescribed the classification of accounts and utilities are required to, and do, conform to that accounting procedure and practice.

—1,022—

The Commission considers, of course, the matter of adequacy of service being rendered by the utility, keeps in touch with the operations of the utilities to ascertain whether the
2016 service is adequate.

Rates are fixed and determined by the Ohio Commission in certain instances. Other rates are fixed and determined by counsel of the various municipalities of the State.

The Commission also authorizes security issues and investigates complaints, corrects abuses if any have been ascertained or discovered.

The Commission also inquires as to matters of discontinued service, extension of service, and generally supervises the operations within the jurisdiction of the Commission.

2017

The acquisition of property is a matter that is also acted upon by the Commission. Contracts between utilities are acted upon, must have the Commission's approval. And many other functions that I just can't recall at this particular time.

The Commission keeps in close contact and touch with the operations of the various utilities that operate in the State of Ohio.

Q. Does the Commission regulate the issuance of securities by public utilities? A. It does.

2018

Q. Can you state whether, from your experience on the

Commission, you know whether The Cleveland Electric Illuminating Company has filed with the Commission statements of property additions and retirements? A. That is correct. That Company does file, I believe, semi-annually, a report as to additions to plant and retirement from plant.

It is the only utility that I have any recollection of that does that particular thing, as far as filing of those semi-annual reports with the Commission.

2019

That is not an absolute requirement on the part of the Commission. They do that voluntarily.

Q. From your experience, will you state whether the size of the electric utility being regulated by the Public Utilities Commission of Ohio in any way affects the effectiveness of the regulation by that Commission? A. I would say not.

Q. In other words, a large utility is not more difficult to regulate than a small utility? A. I would say it is not. Size I do not consider has anything whatever to do with the effectiveness of the regulation.

2020 *Charles F. Schaber—By Respondents—Cross*

Q. Are you aware of the fact that voting stock control of The Cleveland Electric Illuminating Company is held by The North American Company? A. That has been my understanding.

—1,024—

Q. In your opinion, has the fact of such voting stock control restricted or obstructed regulation of The Cleveland Electric Illuminating Company by the Public Utilities Commission of Ohio? A. It has not in any way affected the
2021 regulation of the operating company.

Q. What effect does the existence of such control have on such regulation? A. That doesn't enter at all into the matter of regulation on the part of the Ohio Commission.

Mr. Hamilton: That is all.

Cross Examination by Mr. Binford:

Q. How many members are there on the Ohio Commission? A. There are three members appointed by the Government.

2022 Q. You served from 1933 through 1939? A. Yes. 6 years.

Mr. Binford: No further questions. Same reservation as made in respect to other witnesses.

Mr. Hamilton: And again the same comment on our part, Mr. Examiner.

Mr. Browning: Could we have an understanding that we always object to Mr. Binford's reservation, so that we wouldn't have to state it each time.

The Examiner: Yes. I think that is proper to be added on the record at this time.

—1,025—

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Mr. Binford: We will try to make it shorter each time.

Mr. Browning: Mr. Crawford.

Whereupon, EBEN G. CRAWFORD called as a witness on behalf of the Respondents, being first duly sworn, was examined and testified as follows:

Direct Examination by Mr. Browning: 2024

Q. Will you give your name and address to the Reporter, Mr. Crawford? A. My name is Eben G. Crawford, 2864 Eaton Road, Shaker Heights, Ohio.

Q. Mr. Crawford, you are president of The Cleveland Electric Illuminating Company? A. I am.

Q. Will you describe briefly your education and business experience? A. I was born in Franklin, Pennsylvania, a small town in what we call the oil country in western Pennsylvania, in 1883.

My father was a small-town banker. I lived in Franklin, going to the Franklin schools and graduating from the 2025 Franklin High School in 1900.

I entered Dartmouth College in the fall of 1900 and was

there one year. I returned to Franklin, got a job in a bank as messenger.

I worked in that bank until 1910, at which time—of course, I say it was a very small bank, a small organization, —and I retired in 1910 from the bank as assistant cashier. I bought a jewelry store in Franklin and ran, or misran, that jewelry store for three years, and sold out.

2026

I was married by that time and had a small family. My next job was with the Venango Manufacturing Company, which was a small local concern, with a foundry and machine shop, making patented appliances for use on railroad locomotives. I went in there as a machinist assistant and did all sorts of jobs around the plant.

I was there for three years. The last year——

Q. (Interposing) Beginning in 1913? A. Beginning in 1913; that is right.

2027 The last year I was engaged in selling castings—gray iron castings. They had a foundry that was larger than their own needs and I conceived the idea that we might sell some castings, so for a year I traveled around western Pennsylvania selling castings for this concern.

In November, 1916, I went to Cleveland, where I was employed by an investment banking house as a bond salesman. I did fairly well at that, until the war broke out, when I entered the Liberty Loan Organization in Cleveland. That was a government organization for the selling of liberty

—1,027—

2028 bonds. I was assigned five counties in northeastern Ohio, over which I had supervision in the matter of selling these bonds.

At the close of the war, and when I stopped selling liberty bonds, I remained with the Federal Reserve Bank of Cleveland for a year or a year and a half, selling United States treasury certificates to banks in those five counties.

Q. Those five counties are the same counties which comprise the present territory of the Illuminating Company? A. They were Cuyahoga, Lake, Geauga and Ashtubula, which

are in the territory of the Illuminating Company, and Mahoning County in which Youngstown is located.

Then I also, during that period, was working on the matter of inducing non-member banks, of which there were a good many in those days, to join the Federal Reserve System, and I was able to get a number of them to do that.

In the fall of 1920 there was a merger of three of the large Cleveland banks into a new bank called the Union Trust Company, and they started with a very large bond department. The vice president in charge of that bond de- 2030
partment employed me to go to work for them and wholesale bonds among other dealers. They were engaged in originating a lot of issues. I went to work there about the first of January in 1921, and in April of 1921 I was elected secretary of The Cleveland Electric Illuminating Company.

—1,028—

I went to work there about the 15th of April and I have been there in one capacity or another ever since.

Q. Tell us what your capacities with the Illuminating Company have been. A. Well, I was elected secretary of the Company, as I say, in April 1921, and I continued as secre- 2031
tary for the Company until—that was my official title—until February of 1933, when I was made vice president and secretary.

On the death of Mr. Lindsay, the president of the Company, late in August of 1933, I was made president of the Company.

Mr. Lindsay had been critically ill for two years before his death. The last year of his life he spent down at Charlottesville, Virginia. He had built a house down there and wanted to be there because he could get treatment, for the

2032 *Eben G. Crawford—By Respondents—Direct*

illness that killed him, from specialists in the University of Virginia.

He had been practically incapacitated for two years before that, and it devolved upon me to rather take over the running of the Company, particularly the contacts with The North American Company in New York, so that it was pretty well decided, before Mr. Lindsay's death, at the time I was made vice president in the spring of 1933, I think, it was pretty well understood that upon Mr. Lindsay's death I
2033 would remain president of the Company, and I was so elected in September of that year.

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Q. You have resided in Cleveland for the period from November, 1916, to date, then? A. That is right.

Q. Mr. Crawford, are you a director of any corporations or organizations other than the Illuminating Company? A. Yes, I am a director of the National City Bank of Cleveland, and have been since 1933.

I am a director of the Wheeling & Lake Erie Railroad, and have been since 1933, I think.

2034 I am on the Board of Trustees of Cleveland College and I am on the Board of Trustees of the Cleveland Regional Association, which is a civic association, planning the future development of Cleveland, as to highways and zoning and improvement of the metropolitan area.

I was for a number of years chairman of the Depositors Committee of the Union Trust Company, which Union Trust Company was closed at the time of the banking crisis in 1933. I was chairman of the Depositors Committee until a new bank was organized in 1938—the Union Bank of Commerce—to take over the unliquidated assets of the bank and

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pay out and liquidate the assets and make further payments to depositors.

That committee was dissolved upon the completion of the formation of the new bank.

I was also president, in 1936, of the Great Lakes Ex-

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position, which was patterned after the Century of Progress in Chicago, operated for two years in Cleveland, and brought a lot of people into the town and was an aesthetic success if not a financial one.

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(Discussion off the record.)

Q. Will you please describe the organization of the operating staff of the Illuminating Company? A. The operating staff is responsible to the Board of Directors through the president, through the vice president and general manager, who is in charge of the general operations of the Company, the vice president and treasurer, the vice president in charge of sales, and the secretary and the comptroller.

The president also has three assistants, and we have Mr. Frank M. Cobb, who has been our general counsel for many years, with offices right in our building, who devotes all his time and practice to the affairs of the Company.

2037

In general charge of operations is Mr. H. W. Hough. Mr. Hough has been with the Company——

Mr. Browning: Just a minute. Off the record.

(Discussion off the record.)

A. (Continuing) Mr. Hough has been with the Company for thirty years, has lived in Cleveland all that time, starting with the Company as an engineer, became research engineer.

—1,031—

Then he became assistant to the president, when Mr. Lindsay was in charge of the Company, and, upon my election as president of the Company, he was elected vice president and general manager, and put in charge of the general operations of the Company.

The vice president and treasurer, Mr. Charles W. Mills—Mr. Mills is a man 71 years old, who has lived in Cleveland all his life. He has been with the Company since 1893, 47 years.

2039 He started in as a bookkeeper. In 1893 the Company was, of course, just a baby, and he has been treasurer of The Cleveland Electric Illuminating Company since 1921. He was born in Cleveland. He lives in East Cleveland, East Cleveland being, as you know, contiguous to Cleveland. The only way you can tell the difference is the fact that there is a municipal border line across there.

He is in charge of the treasury department. He has 86 employees in the various branches of that department. He is responsible for the receipts and checks and money and bills and bank accounts, and similar property.

2040 He has an assistant treasurer and has a collection department under his jurisdiction.

And we have an assistant secretary and an assistant treasurer—Mr. C. L. Mills—who is no relative of the other Mr. Mills.

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Mr. C. L. Mills is a man 59 years old. He has been with the Company 40 years or 41. He has charge of the minute books of the subsidiary companies, Employees Fund—I don't know whether it has been described by the other witness or not—and also the records of the pension fund, and he signs

as assistant secretary or assistant treasurer, when such signature is required.

Mr. C. W. Mills, vice president and treasurer, also has under his jurisdiction the collection department. It is a very important department of the Company.

The head of the collection department is Mr. Harry D. Ballard, who has been with the Company 26 years and is a born Clevelander.

His department supervises credit arrangements, collection of delinquent or past-due accounts. They make adjust- 2042
ments of complaints or errors in billing; they make settlements of any customer complaints involving money, and they maintain the contacts and relations with the many paying agents which the company has.

Our customers can pay bills at any one of the branches of the Cleveland Trust Company, which has about 52 or 53 branches; of the Central National Bank, which has about fifteen neighborhood branches, and then, where those branch banks are not conveniently located, we have set up agencies in stores in some little shopping sections, so it is no hardship, it isn't difficult for a customer to go and pay his bill, 2043

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and the collection department maintains those contacts and sees that the arrangements are properly carried out.

The vice president in charge of sales is Mr. H. C. Gillie.

Q. Is that H. C.? A. H. C. Harry C.

He has been with the company 33 years. He came to Cleveland from the West in 1898 and has lived in and around Cleveland ever since. He went through Case School, graduated as a mechanical engineer, came into our power sales department shortly after.

2044

He was a power salesman; then he was promoted to be in charge of all the power salesmen and in 1933, when I took over the presidency, he was made sales manager.

His predecessor, who had grown old in the business, was retired. In 1935, at my suggestion, the Board of Directors elected him vice president in charge of sales.

It didn't change his duties or his responsibilities any but we felt that it would give him a better standing among the large power buyers, and so, since then, he has been vice presi-

2045 dent in charge of sales.

He has about 150 employees in industrial, commercial, and residential sales.

Under him, in charge of domestic sales—that is, sales

—1,034—

to residential consumers, is Mr. J. E. North, who has been with the Company 21 years, has been in Cleveland all that time and has been president of the Electrical League all during that period.

Mr. North has a staff of 83 workers in residential sales promotion, and some of those men also work in cooperation

2046 with the dealers in the distribution of appliances.

Mr. North is an employee of the Company in charge of domestic sales, and he also directs the Electrical League. I think our Cleveland Electrical League was the first institution of that kind, and has been used as a model quite frequently by other companies.

Mr. North participates, with Mr. Gillie and myself and Mr. Ryan—one of my assistants in charge of advertising—in the preparation of sales campaigns, booklets, mail advertising, and newspaper advertising as well.

He makes a lot of public addresses before schools and societies, particularly on the advantage of proper home lighting, and he has been very successful in that field.

The secretary of the Company is Mr. Sidney Hall, a young man. He has been with the Company seven years. He was made secretary in 1935. He was born in Cleveland, lived there all his life.

He does the usual things that secretaries do. He keeps the official records of the company, records of the corporation, deeds and franchises; he records the minutes of direc- 2048

—1,035—

tors' meetings.

He is in direct charge of our insurance. He is in charge of a revolving fund which we have to make loans to employees who are in some pressing need of money, and whom we found a good many years ago were apt to get in the hands of these loan sharks at the rate of three per cent. a month, and we set up this fund whereby an employee who had a good record and could show a real need for it, could borrow money from the Company and pay it back, over a period of a good many months out of his pay checks, for which we charged 2049 him no interest rate.

Mr. Hall has the administration of that fund. He also has charge of that pension fund, our group life insurance, that provides for the hospitalization of employees, to which about two thirds of our employees belong.

That movement has had a very wide growth in Cleveland. For a small sum each month, to be deducted from their pay, the employee confined can have his hospital requirements paid for without any great burden at any one time, and Mr. Hall is in charge of that.

2050 He gets out the reports to the trustees, stock exchanges, S. E. C.; he gets out the dividend checks; he gets out all financial information for clearing houses; he directs the Company's stock transfers to registrars and bond coupon agents.

—1,036—

He does all the things that a secretary of an organization of this size and scope would be expected to do.

The comptroller of the Company is Mr. R. H. Smith. He
2051 has been with us for—he is 46 years old; he has been with us since 1924.

He came to us from Price, Waterhouse & Company. He has been comptroller since 1928, lived in Cleveland since 1921, lives in Shaker Heights.

He has general charge of all the accounting activities of the Company and prepares the budget, and he controls the work orders and he gets out the job orders, controls expenditures under the budget, has general charge of consumers' billing, accounts receivable and payable, general ledgers, tax reports, and has under him, of course, quite a large super-
2052 visory staff.

Our consumers' accounting department, which get out monthly bills, about four million a year, is under Mr. H. R. Skirving. He has been in charge of that department for many years.

That is a department of about 125 employees, mostly girls. We do mechanical billing and daily billing. Bills go out every day of the month. We don't have, as many companies do, a particular day of the month for mailing out bills.

Mr. Skirving is in charge of that. It is a department with which we have had a good deal of trouble, on account of

having so many girls in it. Mr. Skirving is an old man, who has been there a long while, and he is like a school teacher to them; he does like a school teacher does to a class, and we have had no trouble whatever since Mr. Skirving went in there.

The auditor is Mr. Scholley. Mr. Scholley has charge of the general accounting of books of the Company, getting out of checks, verification of orders and invoices.

He prepares tax reports, financial statements. He has a large staff of accountants under him. 2054

Also under Mr. Smith, the comptroller, is the budget accounting division under Mr. H. C. Patmore—P-a-t-m-o-r-e. He has been with the Company 19 years, has always lived in Cleveland.

He supervises, under the comptroller, all the accounting of the budget. He is in direct charge of the budget for operation, for new construction, for replacements, retirements. He gets out all work orders and sees that those work orders are closed when the work on them is completed.

Also under the comptroller is the construction cost division. That is under Mr. F. E. Stoller—S-t-o-l-l-e-r. He has 2055 been with the Company since 1921 and has been superintendent of construction costs since 1924.

He has in his department 33 employees. He is responsible for the estimates of contruction costs prepared by the Company and the checking of costs and estimates by con-

tractors. We do our own engineering. We do not—we haven't for many years employed outside engineers for the design or construction of plants or sub-stations or any buildings.

2056 We have our own architect and Mr. Stoller's department makes the Company's estimates of the cost of any construction project, and confers with contractors as to their estimates and our engineers and contractors' engineers sit down together and as a rule are able to agree on what is the proper cost of a project, and the contract is let usually on that basis.

Mr. Frank M. Cobb, to whom I referred earlier as general counsel for the Company, is a lifelong Clevelander, 66 years old, always lived in Cleveland.

2057 He has been with the Company since 1902. He started with the Company on a fee basis, doing general legal work for the Company in 1902, and in 1914 he was made general counsel for the Company and has been in that capacity ever since. His office is right in our office building.

He has been a member of the Board of Directors since 1912.

He has general control of all our legal work. He retains sometimes outside help, but in all legal matters of the Company he is general counsel for the company.

He devotes all his time to—and has for many years—to
2058 the affairs of the Illuminating Company.

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The claim agent of the Company is Ralph Holcomb—He is 47 years old.

He has been with the Company for 13 years and in charge of the Claim Department for 12 years. He has a staff of eleven—claim agents, adjusters, and so forth. His department investigates all accidents, adjusts claims—he is a lawyer, a member of the bar—prepares court cases for the Company's counsel.

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By the way, we do not insure against public liability. We take care of all our public liability claims ourselves. We think we do it to very great advantage to the Company. We know that we save money over what we would have to pay for public liability insurance.

The costs of our claim department indicate that we make very substantial savings, but we have one very important consideration: we would much rather have the Company settle claims, either against it by some customer or against the customer by the Company, than have an insurance collector, who has no further consideration other than to get the settlement as quickly as possible and as cheaply as possible.

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We feel that, by the handling of our claims in that way, we maintain a very much better relationship between customers of the Company and the Company.

It has worked out very satisfactorily. We don't, for instance, insure even our automobiles against public liabil-

ity. We make all our own settlements on that. We find that we don't have accidents, because the Claim Department —Mr. Holcomb—is very, very much interested, and really in charge of our safety work, and we go into safety to the nth degree in our Company.

2061

Our employees are instructed—well, not only in their own protection, because some of their work is hazardous, but in the protection of the public. We have five hundred automobiles, approximately, in our territory. Those automobiles can either be an asset for good will or a liability for bad will, depending on how they are operated.

2062 *Eben G. Crawford—By Respondents—Direct*

Our drivers are instructed along safety lines. We hold safety meetings very regularly. There are quite serious penalties imposed for infractions of the Company's safety rules.

Mr. Holcomb is in charge of all that safety work. As president of the Company I have three assistants—one, Mr. Frank J. Ryan. He has been with the Company since 1923. He has lived in Cleveland since 1905.

Mr. Ryan is in charge of our advertising department. He
2063 prepares and supervises any public statements of the Company. He has much to do with the preparation of the annual report to shareholders, as to form.

He has entire charge of the advertising of the Company. He sits in with me and Mr. Gillie, the vice president in charge

—1,041—

of sales, and Mr. North, on, oh, dozens of conferences, I would say, each year, on sales promotion.

He is an old newspaper man. He was, for a while, managing editor of the Cleveland Press. Later he moved to New York and was in charge of one of the national syndicating
2064 organizations—I think, the News Enterprise Association, N. E. A., I think. He came to the Company in 1924 as advertising manager and four or five years ago I was empowered by the Board to employ such assistants as I needed, so I made him assistant to the president.

I have another assistant—Mr. Benjamin E. Ling, who is a man about 52 or 53 years old.

(Discussion off the record.)

A. He knows everybody in Cleveland. He keeps in constant contact with various governmental agencies. He is just an

invaluable person for a busy man to have around, getting information on what is going on in the city and what is about to go on, and he has been of great value.

My third assistant—technical assistant—is Mr. Lindseth. I think Mr. Lindseth qualified, told you what his duties were, on the stand.

Q. Now, will you describe the organization which is under Mr. Hough, as vice president and general manager? A. Well, the operating of the engineering and construction organization is all under Mr. Hough. In other words, out of the 2066

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about 3,700 employees of the Company, about 3,300 are in the department supervised by Mr. Hough.

Mr. Hough has working with him, as executive engineer, Mr. D. C. Ober—O-b-e-r—who is 49 years old, has lived in Cleveland since 1911, has been with the Company 26 years. He has been three years in his present position.

He is responsible or in charge of all engineering—electrical, civil, mechanical, research and statistical departments, wire relations, and chemical laboratory. As a matter of fact, Mr. Ober could be characterized as an assistant vice 2067 president and general manager.

He is right under Mr. Hough and, in Mr. Hough's absence, he takes complete charge of the departments over which Mr. Hough has jurisdiction.

Mr. Ober has with him, associated with him as a mechanical engineer in executive engineering, Mr. A. A. Casey—C-a-s-e-y—Mr. Casey is 42 years old.

He has been with the Company 16 years. He has lived in Cleveland since 1920.

2068 *Eben G. Crawford—By Respondents—Direct*

As I said, we design our own plants and buildings, and Mr. Casey is a mechanical engineer in charge of plant design. In the estimate of cost of plant additions, he makes the designs or supervises the designs, he contacts contractors with Mr. Stoller in charge of the cost estimating division, he supervises the design of plants and the specifications, and he does a great deal of the purchasing in plant construction.

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2069 We are building a plant now, 120 thousand kilowatts capacity. Mr. Casey has been working constantly on that plant design and on the specifications and on the placing of equipment with various manufacturing companies, and will have direct charge of the construction of that plant so far as the design and carrying out of the contracts, until it is completed.

Mr. Ober also has associated with him as electrical engineer in executive engineering, Mr. W. E. McFarland. He is 44 years old, lived in Cleveland since 1903, and has been with the Company for 21 years.

2070 Mr. McFarland's principal duty is an analysis of rates. We are studying rates all the time. We are studying the results of the application of rates, and Mr. McFarland sets up new rate schedule forms, he advises with me on whether a proposed rate reduction would result in a loss of revenue, what advantages it might have from a sales promotion point of view, and is in general charge of our rate studies.

Under Mr. Ober, as mechanical engineer, is Mr. C. R. Nichols, 63 years old, who has lived in Cleveland since 1924 and has been with the Company all that time.

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He is in charge of the building design, in charge of the drafting room, handles the architectural design of plants and sub-station buildings and other buildings being built by the

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Company, having the coming architect under his jurisdiction, and he issues all the specifications for buildings.

The electrical engineering department is under Mr. H. L. Wallau—W-a-l-l-a-u.

Mr. Wallau is 63 years old, he has been with the Company 39 years, and he has been in charge of that department for twenty years, lived in Cleveland since 1901.

2072

He is in general charge of electrical engineering design and operation. He represents the Company on association committees.

He is on the Electrical Equipment Committee of the Edison Electric Institute; he is on the Inter-company Electrical Committee; he is on the Electric Switch Gear Committee of the association of Edison Illuminating Companies, the American Standard Association, and the American Institute of Electrical Engineers.

2073

The assistant electrical engineer is Mr. F. Borch—B-o-r-c-h.

Mr. Borch is 61 years old, he has been 19 years with the Company, lived in Cleveland since 1920. He is really in direct charge of the operations of the electrical engineering department, in the design of the electrical ends of power plants, switch houses, transmission systems, and distribution substations.

He is in charge of the selection of equipment for use in

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the electrical department, and he cooperates with the Operating Department in all tests and in case of trouble, in finding the reasons for electrical breakdowns. He is in general charge of electrical engineering.

We have a chemistry department; Mr. J. Prescott is at the head of that.

Mr. Prescott has been with the Company 19 years. He has only been chief chemist for the last—for a few months. His predecessor died six months ago and Mr. Prescott has
2075 been in charge of the chemical laboratory since that time.

That laboratory tests fuel to see whether coal companies are delivering the coal that we are buying. We have pretty rigid requirements as to moisture, ash, sulphur contents, and our chemical laboratory tests practically every shipment that is made from each of the maybe 20 or 30 mines from which we get our coal.

They also test paints and insulation and prepare specifications for oils, such as turbine oils and transformer oils, test those oils as to their meeting those specifications. We think it has been a very valuable department in the Company.

2076 Mr. W. W. Godard is the research engineer in charge of research and statistics.

He has been with the Company 18 years, and seven years in his present position.

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He has lived in Cleveland continuously since 1922. He gets out the statistics of the Company, makes analyses of these statistics for various purposes, supervises the statistical part of reports to governmental agencies, gets out statistics showing the results of sales promotion campaigns, and projects trends of production and sales which help to enable

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us to make estimates as to the future volume of the Company's business and the future requirements for plant expansion.

We have a wire relations department in charge of a supervising engineer, Mr. B. W. David. He has been with the Company for 12 years, lived in Cleveland since 1915. We have joint ownership agreements on poles with various other companies, telegraph companies.

Mr. David maintains those contacts and is in charge of those relations. He negotiates sales of jointly owned property or purchases of jointly owned property. He keeps a record of the costs, he checks line surveys for the requirements of the Public Utilities Commission of Ohio, he is in charge of transmission line crossing agreements with railroads, and he has had charge of eliminating interference with radio.

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In the early days of radio we had hundreds of calls, blaming our lines and our transformers for putting out static which interferred with performance of radios. That has been generally cleared up. Mr. David has had charge of that department of the Company's business, and it was quite a serious public relations problem at the time, but we haven't

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heard much of that in recent years.

Steam Superintendent—Mr. W. H. Aldrich is the steam superintendent of the Company.

He has charge of the steam end of our power plants, production of power, and also of our two steam heating plants. He has charge of the coal in the yards and operation of the boiler and turbine rooms.

2080 He, of course, at the time of the design of a new plant, cooperates very closely with Mr. Casey in the design of a plant as to what equipment shall be used, what type of installation shall be made, capacity, and the pressures and steam pressures and temperatures, so that he has a very responsible position in the design of the power plants as well as complete supervision over the operation of them.

His assistant superintendent is Mr. B. P. Ruetenik. He has been 16 years with the Company, 11 years in his present
2081 job, born and raised in Cleveland, and always lived there. Mr. Aldrich also has under his supervision the superintendents of the power plants.

At Ashtabula, which is our largest power plant at this moment, located at Ashtabula, Ohio, the superintendent is Mr. C. F. North.

He has been 30 years with the Company and in charge of that plant ever since it was built.

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He has lived in Cleveland, or in our territory, since 1906.

In the same capacity at the Avon plant is Mr. F. J.
2082 Friedel, 48 years old, 23 years with the Company, has always lived in Cleveland.

At the Lakeshore plant the superintendent is Mr. F. C. Fletcher, 53 years old, has been with the Company 21 years and has been in charge of the Lakeshore plant for 11 years, lived in Cleveland since 1919.

In charge of the Canal Road plant and the East 20th Street steam plant, under Mr. Aldrich, Mr. R. E. Cooper, 57 years old, has been with the Company 29 years, 49 years in his present position.

Q. What is that? A. 14 years in his present position, and has lived in Cleveland since 1905.

Mr. E. C. Cawrse is production and testing engineer. He is 42 years old, has been with the Company twenty years, has been in his present job three years and has always lived in Cleveland.

He is in charge of the department which maintains the operating efficiency in power plant production. He tests power plant equipment; in charge of system design calculations and is in charge of the general technical staff, power 2084
generation.

—1,049—

In charge of our electrical department, which has complete supervision over the energy from the time it leaves the power plant until it reaches the customer, Mr. Fred S. Lewis. Mr. Lewis is 71 years old.

He has been 46 years with the Illuminating Company and before that for several years with one of the predecessor companies.

I think he entered the employ of one of the predecessor companies in 1886. He has been in charge of our electrical 2085
department for many, many years.

He operates all the transmission, distribution system sub-stations. He has a load dispatcher. He has 68 sub-stations in his department, and he may supervise the construction and installation of electrical equipment in all power plants and sub-stations.

His assistant for many years has been Mr. A. H. Nicholson who has been with the Company for 34 years. Mr. Nicholson has been with the Company for 34 years, 13 years in his present position.

2086 *Eben G. Crawford—By Respondents—Direct*

He has lived in Cleveland since 1889.

Mr. E. E. Noble, assistant general manager, with general supervision over the line department, has been with the Company for 46 years. He came in 1892, when they were building the Canal Road Plant. He has been 20 years in his present position and has lived in Cleveland since 1893. He has general supervision of the overhead line department, the

—1,050—

2087 underground lines, survey and record departments, the inspection department, which is the watchman and all the people engaged in protecting the Company's plants.

His assistant, as general superintendent of lines, is Mr. W. E. Rader, 52 years old. He has been 31 years with the Company, has been in the line department all that time—he has worked his way up through it.

Mr. Noble, as assistant general manager in charge of the lines department, has been ill for two or three years, has been unable to be on the job much of that time, and is about to be retired on pension, having reached the age of 65, and Mr.

2088 Rader will have full charge over the line department, over underground lines, from now on.

The superintendent of overhead lines—Mr. P. R. Ellsworth—50 years old and 31 years with the Company, one year in his present job, born in Cleveland and always lived there. He is just what his title implies, in complete charge of the construction, inspection and operation of the overhead lines, tree trimming activities, service installation and the trouble department.

Superintendent of underground lines—Mr. Alex Douglas—is 49 years old. He has been with the Company for 19

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years and in his present position for six years. He has lived in Cleveland since 1918.

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He is in complete charge of all underground maintenance, construction and operation, and underground street lighting circuits, and in charge of the inspection of underground lines.

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The superintendent of Inspection is Mr. B. S. Howlett. He is 55 years old. He has been with the Company for 31 years, 19 years in his present job. He has lived in Cleveland since 1909. He supervises the watchmen at the Company's power plants and other buildings, supervises their safety men at street openings when the underground department is working under the streets. He investigates reports of current thefts, reports the results of his investigation to the Collection and Claim Department.

2090

(Discussion off the record.)

A. (Continuing) The superintendent of Survey and Record Department is Mr. W. J. Pugh who is 49 years old. He has been 20 years with the Company and has always lived in Cleveland. He supervises the Survey Department in preparing working drawings for line extensions, for construction of overhead and underground lines, rights of way; he gets permits and consents for tree-trimming, etc. He supervises and maintains all circuit maps for all transmission and distribution of lighting circuits.

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An Assistant General Manager is Mr. J. T. Kermode. Mr. Kermode is 63 years old. He has been with the Company

2092 *Eben G. Crawford—By Respondents—Direct*

since 1893. He has been Assistant General Manager for three years and previous to that was in charge of the Service Department.

Mr. Kermode has a great familiarity with all of the Company business. He started in as a boy and I think he worked at one time or another in almost every one of the operating departments and he has been for many years in complete

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2093 charge of the Company's service. That includes meter reading, service applications, adjustments of meters, charge of meter testing, in charge of the Company's transportation, properties and buildings, garages, warehouses and shops, in charge of the operation of the office building for the Company, a most valuable man in every respect.

Mr. Kermode has under him in the Service Department, the man who succeeded him as head of the Service Department, Mr. Clarence F. Whiteman. He is 51 years old and has been with the Company 35 years, three years in his present job, born and reared in Cleveland.

2094 Mr. Whiteman supervises all work on the customers' premises, the installation and removal of meters, the meter reading department. He maintains and operates the street lighting equipment and all equipment on the consumers' premises.

In charge of our Stores Department as superintendent is Mr. R. P. Snow. He is 47 years old and has been with the Company for 13 years. He has direct supervision of all stores and employees. He supervises both warehouses—we have two warehouses, one on the east side of Cleveland and one on the west side of Cleveland. He is in charge of the

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records, stores, materials and supplies, and in charge of requisitions for such stores and materials.

As Fuel Agent and Civil Engineer in charge of Building Construction is Mr. F. C. Loweth. He has been with the Company 19 years and has lived in Cleveland since 1912.

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Mr. Loweth buys all the coal that the Company consumes. He has charge of the routing of fuel, tracing of lost freight and making freight claims. He is also a civil engineer in charge of new building construction and alterations. He is in charge of the maintenance of our branch offices throughout the territory. He is our contact with the Federal and Municipal authorities on engineering work in the matter of getting permits for buildings from the Zoning Commission. He has general supervision of the transportation and automobile shops.

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The Superintendent of the Automobiles, Garages and Shops is Mr. George H. Skinner. He is 54 years old and has been with the Company for 34 years, three in his present position. He was born and reared in Cleveland. He is in charge of all our automotive equipment, passenger cars, trucks, tractors, trailers, cranes, pole diggers. He is in charge of the garages. He is in charge of the moving of supplies as required between Company properties. He is in charge of our cable reclaiming department, transformer repairs, and tool repairs.

2097

The Purchasing Agent of the Company is Mr. W. H. Hartman. He has been with the Company 35 years, 29 years in his present position. He has lived in Cleveland since 1900. He is in charge of purchasing all supplies and

2098 *Eben G. Crawford—By Respondents—Direct*

equipment and he disposes of obsolete material and scrap for the Company, scrap metals.

The Pay Master is Mr. H. G. Elder, 51 years old and 28 years with the Company, 20 years in his present job. He

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has lived in Cleveland since 1912. He is not only Pay Master but he is in charge of personnel, that is the hiring of personnel. He interviews applicants for positions. If a department needs an employee of one type or another they
2099 tell Mr. Elder what the qualifications are of the man or woman that they need and he interviews applicants, selects the ones he thinks might be suitable and sends them to the department head for his final judgment on whether or not they should be employed. He is responsible for the employment and payroll records and Social Security Board reports.

Mr. Browning: Mr. Examiner, could we take a recess at this point?

The Examiner: Yes, we will have a short recess.

(Whereupon, a brief recess was taken.)

2100 The Examiner: You may proceed.

By Mr. Browning:

Q. What has been the Company's record of employee relationships? A. I think it has been about as fine as it could have been. I mean, I think our relationship to the employees and the employees among themselves is about as fine as could ever have been in any company. We never have the slightest disagreement with our employees in any respect. There has never been a union in the Company. The employees have

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never suggested that there might be. Personally, I think I am as much interested in employee relationship as I am in

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any branch of the Company work. I know—I can't say I know all of them but I know a great many of them personally. I am in constant contact with them.

While we are non-union in our operation, we get along extremely well with the trade unions in Cleveland because all our construction work done by contractors is done by the union labor.

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Q. What is your standard work week? A. We have been working 40 hours a week, that is eight hours for five days, ever since 1933 when the N. R. A. became effective. We were working a 44-hour week before that but we found that after getting adjusted to the 40-hour week it was entirely satisfactory in every respect. We pay time and one-half for overtime and our employees have vacations with pay.

Q. Do you interest yourself in safety in the working conditions? A. I think we are strictly active in safety work. We have safety committees in practically all departments of the Company in which there is any degree of hazard. Those committees meet frequently. There is competition among men for the best safety records.

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There are in some cases some rather severe penalties for flagrant infraction of safety rules. The safety work has been not only extremely interesting to the men but has had a very satisfactory result. For instance, between 1925 and 1939 accidents resulting in any disablement decreased 81 per cent. I think that in 1939 possibly we had as low a rec-

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ord of disabling accidents as any company in the country

2104 *Eben G. Crawford—By Respondents—Direct*

At the beginning of 1940 we had 114 Company drivers who had driven more than ten years without any accidents for which they were responsible. We have been leading up in the Cleveland Safety Council records for fleet operation. We have been right at the top year after year for operating a big fleet without accident to the public.

We maintain a dispensary in our main office building. There every morning from 8:30 for as long as they are required, there are two doctors, both eminent doctors. We
2105 have four trained nurses in that Cleveland Dispensary. We have visiting nurses who visit the employees at home when there is any sickness among the employees. We have one visiting nurse in the eastern district. In 1939 there were 4,500 calls in the dispensary. In 1939 there were 3,900 calls at homes of employees. We use all possible safety appliances both in our shops and in the field.

In line work the employees are given all the precautions that are known to the industry to prevent accidents. In the last three years we have adapted and trained our men in applying resuscitative methods to a man who has been
2106 shocked on a pole before they bring him down.

We did not find this out but it was found by other companies.

Q. Do you remember where you borrowed that idea? A. I think we got that idea from a report in one of the maga-

zines that we saw that started in Pittsburgh and then Milwaukee took it up. I think Milwaukee went into it before we did. We sent men around to various companies where

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it was being applied to see whether in their judgment it was worthwhile doing it and we came to the conclusion that it was.

Now they go to work on a man before they lower him to the ground and the theory is that the interval between the time of the shock and getting him down to the ground is a critical one and the record has been, I think, very satisfactory as to bringing men back to consciousness. I am merely saying that because we try to keep abreast of all developments in safety for employees.

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(Discussion off the record.)

By Mr. Browning:

Q. Do you support any recreational activities for your employees? A. Yes, we have three welfare associations, the Men's Welfare Association with about 2,300 or 2,400 members, the Women's Welfare Association with about 400 members, and the Illuminators, that is the Colored Welfare Association. They call themselves the Illuminators. I am the president of that organization.

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The employees pay nominal dues of $1.00 a year and the Company makes up the difference in the budget. Our contributions for the Men's Welfare Association runs around $1,000, for the Women's Association I would say it ran about $2,000 a year, and for the Illuminators about $700. The Illuminator's cost per head is very much higher than that of

the others. They have a great time. In the Men's Welfare Association we fixed up a room for them in one of our garage buildings. They gather there every Tuesday night. You

2110 will find 300 men playing pinochle and 150 men playing duplicate contract bridge. There will be about 20 Ping Pong tables in operation. That goes all winter long. Then we provide bowling and we have bowling once a week that we rent alleys for.

They have a golf league within the Company and a golf team in the Industrial League and I may say that the Illuminating team won the championship in that Industrial League for 1938-39.

2111 We have Company picnics. I go to the golf—we have two golf matches within the Company for which we put up prizes, one in the spring and one in the fall. Until this last year I have always participated in that tournament and I have noticed that they always put up their best player to give me a beating and he always does it.

Our recreational relations with the employees are a very happy thing. We have this big picnic at the Euclid Beach in July of every year, at which everybody who is not absolutely required to be working attends. The picnic opens about ten in the morning and lasts until the evening. We get 11 or 12

2112 thousand people there for that day.

We make arrangements with the Euclid Beach Park to buy scripts of tickets for the various rides and roller coasters, etc., and give them to children. One of the features of that picnic is a dinner that I give at noon to the men

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retired on pension and their wives. It is about the only chance I have to maintain contact with these men who have spent their lives in the Company and are maintained on a pension. At each annual picnic I give a dinner and we get all those old fellows in there with their wives. On that day

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also I present to employees who have completed 25 years service, a gold service pin of the Company. They get a great kick out of that.

I used to throw out the first ball at the baseball game but I have given that up. Really that picnic is a very fine thing and we are told that it is the best operated and arranged picnic that comes to Euclid Beach. We go there every year in July.

Q. Have you a pension plan for your employees? A. We have had since 1931 a pension plan funded by the Prudential Life Insurance Company. At the time I was secretary of the Company and before I took over the management, one of the things I did from about 1929 until 1931 was to study pension plans. We felt that we had to put in pensions for our employees and we put a lot of time on it. We employed consultants from Philadelphia who were, I think, the leading experts in pension study and we finally evolved a plan. We submitted that to two insurance companies, the Metropolitan and the Prudential, and after much consultation in New York with the representatives of these companies we finally settled on the Prudential Insurance Company.

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That plan provides that any male employee having 20 years service with the Company, reaching the age of 65,

receives an annual pension of 2 per cent. of his total earnings while with the Company, a minimum of $40 a month, a maximum of $6,000 a year.

The same thing applies to women employees who have been 20 years with the Company and have reached the age of 60. An employee must retire at 65 unless by executive

2116 action he is asked to continue and we have had only two exceptions to the rule of employees retiring at pension age. One of those was Mr. Mills, Vice President and Treasurer. The other was Mr. Fred S. Lewis, in charge of the Electrical Department. Those were both men with full strength and vigor when they came to the age of 65 and they felt that they could continue and would like to continue and so they are still working.

On the other hand, in order to protect them against any
2117 possible change in the pension plan I arranged for them to be given their pension from the insurance company as if they had retired and so they have that and then we have made up the difference in their pay on the Company pay roll so that if the plan were abandoned or modified in any way they would not suffer from having stayed on in the employ of the Company.

That plan is non-contributory from the employees. We estimated by actuarial calculations that if the Company would put up $300,000 a year with the insurance company that we would take care of all our current pension liabilities
2118 and amortize our accrued liability, the liability that had been built up before the pension plan was put in effect, in 25

years. We used life tables, mortality tables, and we erred in one direction. We could not actuarially estimate what turnover would be. We took our own Company records on turnover and that of other companies in the industry and arrived at what we thought would be the turnover discount, the men working for us in 1931 that would not stay there until they became of pension age.

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Just at that time the depression came on and every man who had a job kept it, so we have had no turnover in the nine years that have elapsed since the plan was put into effect. So as a matter of fact our pension reserve is somewhat in arrears as far as the amortization of the accrued liability is concerned. If we ever get to the place where we are making a little money I think we will put a little more into that reserve. It was the first utility company, I think, that funded its pension plan with insurance companies and that was done early in 1931.

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Q. Do you insure the life of your employees? A. Yes, we have insured since 1916 every employee for $1,000 in the Aetna Life Insurance Company, at no cost to the employee. I think that plan could well be modified so that the employee might participate in the cost of it and get a somewhat larger amount of insurance but it has been satisfactory to the employees and we never have changed it. It has been in operation since 1916.

Q. Does the Company maintain a special fund known as

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the Employees' Fund? A. It has for a great many years maintained a practice which we have called the Employees' Fund, of giving employees additional pay at the end of each year. For many years that has been on this basis, that all employees making less than $3,780 a year have credited in a savings account five per cent. of their total earnings for that past year. That is accumulated in the hands of three trustees, Mr. C. W. Mills, Mr. H. W. Hough, and myself.

The fund is invested in the bonds of the Company and some of it in preferred stocks of the Company and in some

savings accounts. There is something over $1,000,000 in the fund. As I say, each year the employee has credited to him in his little book like a savings book, five per cent. of his pay during that past year and interest at two per cent. on the accumulated balance. If he stays with the Company for ten years he gets that money in cash at the end of the ten-year period. If he leaves the Company before the 10-year period is up, after giving required notice of his intention to leave, he gets the accumulation in the fund one year after he leaves.
2123 If he is discharged for cause he forfeits anything that may have been credited to his account in the fund. It has been a very happy thing for the employees.

I think we have paid out something like—since 1904 when we started, we have paid out $5,250,000. Last year 253 employees who received their 10-year accumulation got $240,000, or an average of about $950 apiece. That 10-year accumula-

tion coming to them in cases that I know of, has been the initial start on the payment for a lot or payment for a home.
2124 It has bought a great many automobiles and has just worked beautifully both from the standpoint of the employee and the Company.

Q. Do you grant sick leave to your employees? A. Yes, we do. We do it on a schedule. We used to do it only to salaried employees, but in 1935 we extended it to our hour employees as well. The provisions are like this. Any employee who has had more than five years continuous service gets full pay for three months, followed by half-pay for one month for each year of service, with a maximum of 14 months. Employees with more than three but less than five,

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get full pay for two months, followed by half-pay for one month for each year of service.

Employees of more than one year but less than three years get full pay for one month, followed by half-pay for one month for each year of service.

Employees with less than 12 months service get two days' full pay for each month of service.

Now, an illness where an employee exhausts the sick leave with pay he is kept on the pay roll as an employee to enable him to maintain his pension and group insurance records. In other words, if he is sick for a longer time than for which we pay him we still keep him on the pay roll as an active employee indefinitely until we learn that he has died or moved

2126

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away so that he will not forfeit his pension rights or his group life insurance.

Q. Could you tell us what is the ayerage length of service of your employees? A. The average length of service of supervisory employees, that is employees in positions of responsibility, is in excess of 23 years. Those men have been in the present jobs for an average of more than ten years. Of all employees, 77 per cent. have been in the employ of the Company for five years or more; 64 per cent. for 10 years or more; 13 per cent. for 20 years or more; two per cent. for 30 years or more.

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For male employees the average length of employment is 13 years. For women employees the average length of employment is 9.3 years. 13 per cent. of our present employees have been in the service of the Company for 20 years and 27 per cent. of the employees of 20 years ago are still with us.

2128 *Eben G. Crawford—By Respondents—Direct*

Mr. Browning: I should like to have this chart which is entitled, "The Cleveland Electric Illuminating Company Organization Chart", marked for identification as Respondents' Exhibit No. 30 for identification.

The Examiner: All right.

(Organization chart marked Respondents' Exhibit 30 for identification.)

2129 *By Mr. Browning:*

Q. Mr. Crawford, was this chart prepared from the records of the Company? A. It was.

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Q. And it correctly sets forth the facts shown there? A. It does.

Mr. Browning: I offer this chart in evidence as Respondents' Exhibit No. 30.

Mr. Binford: No objection.

The Examiner: All right. It is received in evi-
2130 dence under that number.

(Respondents' Exhibit No. 30 for Identification, received in Evidence.)

Mr. Browning: I should like to have marked for identification, a table entitled "The Cleveland Electric Illuminating Company Funded Debt."

The Examiner: All right. Let it be so marked.

(The table described was marked Respondents' Exhibit No. 31 for Identification.)

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Mr. Browning: The record might show that this consists of four pages, Mr. Examiner.

The Examiner: Yes.

By Mr. Browning:

Q. Mr. Crawford, was this table, Respondents' Exhibit No. 31, prepared from the books and records of the Company? A. It was.

Q. Does it correctly set forth the facts therein stated? A. It does.

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Mr. Browning: I offer this in evidence as Respondents' Exhibit No. 31.

The Examiner: It is admitted in evidence under the number assigned to it, Exhibit No. 31.

(Respondents' Exhibit 31 for Identification, received in Evidence.)

By Mr. Browning:

Q. Mr. Crawford, will you tell us when The Cleveland Electric Illuminating Company was incorporated? A. The 2133
Cleveland Electric Illuminating Company was incorporated as The Cleveland General Electric Company in 1892. Its name was changed in 1893 to The Cleveland Electric Illuminating Company.

Q. It has had a continuous corporate existence therefore since 1892? A. That is correct.

Q. Will you tell us briefly something regarding its predecessor companies? A. There were in Cleveland in 1892 two electric companies, the Brush Electric Light and Power Company, incorporated in 1881, and The Cleveland Electric

Light Company, incorporated in 1884. The Brush Electric Light and Power Company was primarily a street lighting company. Mr. Charles F. Brush had invented the electric arc light and he formed this company primarily to light the streets of Cleveland and to light the stores with arc lights.

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In 1884 another group of people in Cleveland acquired the license of the Thompson-Huston patents for incandescent lighting and they started in the business of lighting homes
2135 and stores with incandescent lights.

The Cleveland General Electric Company, later The Illuminating Company, was formed in 1892 to merge these two companies. The charters of the two companies were kept alive for a number of years and were finally allowed to lapse.

Q. Were these two predecessor companies, the Brush Company and The Cleveland Electric Light Company, the two original electric companies in Cleveland? A. Yes, they were the only two in existence at that time.

Q. Now, did you also acquire the assets of another corporation in 1911? A. Yes, that is true. There was organized
2136 in 1907 a company called Cuyahoga Light Company which operated in a very small district down near the public square in Cleveland. It came about through the owner of a building putting in a heating and lighting plant and then extending his services into other adjacent buildings.

In 1911 the property of that company or the company, itself, was acquired by The Cleveland Electric Illuminating Company. The Company was later dissolved.

Q. Has the Company at any time organized subsidiaries which are no longer in existence? A. Yes, the Company has

—1,069—

had three such subsidiaries. The Power Construction Company was organized in 1920 and it acquired the site of The Illuminating Company's Avon generating plant. It acquired property from the Avon Railroad Company which was also organized by the Company. It held and disposed of parcels of land bought for the use of the Company and was used as a real estate company to avoid making it necessary to get releases and make deposits under the Company's mortgage indenture for pieces en transit, as it were.

If we needed half an acre we might have to buy three 2138
acres to get it. The Power Construction Company would buy the three acres, take title to it, transfer the half-acre to the Illuminating Company and then dispose as it could of the surplus property. It was dissolved in 1938 and the assets transferred to the CEICO Company which is a subsidiary still in existence.

The Avon Railroad Company was organized in 1935 with a capital of $255,000. It bought a defunct railway, right of way and the rails, which ran from the site of the Avon plan where there had been formerly a small power plant and an amusement park, and crossed at a right of way across three 2139
main line railroads. The Avon Railroad Company was incorporated to deliver coal to the Avon plant by making contacts with these three roads, the Baltimore & Ohio, the Nickle Plate, and the New York Central. It was dissolved in 1927 and the switching track was conveyed to the Illuminating Company and the other track disposed of. The balance

of the property was transferred to the Power Construction Company.

2140 The Illuminating Securities Company was organized in 1925 with a capital of $50,000. At that time we had marketed about $15,000,000 of 6 per cent. preferred stock. We had done that without underwriting and had sold a great deal of it to about 6,000 stockholders living in our territory.

Many of those holders had never owned any corporate securities at all and were not familiar with brokerage houses or stock exchanges or how to buy and sell, and this company was organized to provide them with a place where they could
2141 add to their holdings of the 6 per cent. preferred stock or dispose of it. It was kept alive until 1937. It provided a market for fractional shares of both common and preferred stock, following a reorganization of the Company's capital structure in 1935. It served a useful purpose we thought up until that time. It was inactive thereafter and was dissolved in 1937.

Q. I believe Mr. Lindseth testified that The Illuminating Company has also acquired by purchase the assets or stock of seven other companies from third parties. Is that correct? A. That is correct.

2142 Q. And those companies were all dissolved following their acquisition? A. That is right.

Q. He has also testified, I believe, that The Illuminating Company today has two subsidiaries, the Power and Light Building Company, and the CEICO Company. A. That is

correct.

Q. It has no other subsidiaries? A. It has no other subsidiaries.

Q. You have told us about the organization of The Illuminating Company in 1892. Will you outline briefly the

history of the Company since that time? A. In 1893 the gross revenues of the Company were $189,000. Of that $189,000, $19,000 became net income. Bond charges were $30,000 and preferred dividends, 15.

Q. Fifteen-what? A. Fifteen thousand dollars.

The Company, even during the first year, earned its fixed stock and dividend requirements and has done so ever since. In 1893, just to show the growth of the Company from 1893 until 1914, which was largely the period of transition from gas or oil to electricity for lighting in the homes—in 1893 2144
the physical property amounted to $600,000 with gross revenues of $189,000. Five years later, in 1898, physical property had grown to $1,851,000, a 200 per cent. increase, and the gross revenues had grown to $336,000, a 77 per cent. increase.

In 1903 the property account had grown to $2,909,000, a 57 per cent. increase, and gross revenues to $854,000, a 154 per cent. increase.

In 1908 the physical property was $6,871,000, an increase of 136 per cent. for the five-year period. The gross revenues,

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$1,643,000, a 92 per cent. increase. In 1914 the physical property was $17,185,000, an increase of 150 per cent. The gross revenues had reached $4,256,000, an increase of 159 per cent.

This great growth in physical property necessitated an almost continuous raising of capital in that period from 1893 to 1914. There were 19 sales of bonds aggregating the principal amount of $11,020,000, five sales of preferred stock aggregating $550,000 par value; 11 sales of common stock aggregating $7,762,700.

2146 *Eben G. Crawford—By Respondents—Direct*

Q. Mr. Crawford, does Respondents' Exhibit 31 show the detail of all the issues and retirements of funded debt, preferred stock and common stock, throughout the Company's history? A. It shows the dates of issue, the amounts of those issues, the price realized by the Company, the date of redemption, if redeemed, and the price at which they were redeemed, of all issues that have ever been issued by the Company since 1893.

Q. Now, will you tell us about the period from 1915 to
2147 1919. A. That was a period of very rapid growth, of course, because it was a period in which the World War fell. Starting in 1914 the physical property was $17,185,000. That grew until in 1919 it was $31,437,000, an increase of 82 per cent.

In 1914 gross revenues were $4,256,000. In 1919 they were $9,550,000, an increase of 121 per cent. During this period all financing was done by the issuance of bonds be-

cause in that period no equity money seemed to be available, so that in that period $11,300,000 principal amount of bonds
2148 were sold

In 1916-17, $3,300,000 principal amount of bonds were sold at a money cost to the Company of five per cent. In 1917 an additional $50,000 principal amount was sold at a cost of 5.2 per cent. A further $25,000 principal amount was sold at a cost of 5.6 per cent.

In 1917 also $1,490,000 principal amount of bonds were sold at a money cost to the Company of 5.4 per cent. $3,935,000 of principal amount of bonds were sold at a cost of 6.2 per cent.

In 1919, $2,500,000 principal amount of bonds were sold, at a money cost to the Company of 5.7 per cent. That makes a total of $11,300,000 principal amount of bonds sold in the period between 1915 and 1919.

Q. What was the result of these issues on coverage of interest charges? A. Well, by increasing the funded debt at that rate, it had to be done at a much faster rate than earnings. The coverage of interest declined from 4.3 times to 2.4 times.

Q. What happened in the post-war depression period? 2150
A. We have called the post-war depression period the years 1920-21. In those two years physical property increased from $31,440,000 in 1919 to $41,200,000 in 1921, an increase of 31 per cent.

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The gross revenue increased from $9,390,000 in 1919 to $13,000,000 in 1921, a 39 per cent. increase. With this growth additional capital funds were required and at that period they were exceedingly costly. The Company, in 1920, sold $5,000,000 principal amount of 7 per cent. first mort-
gage collateral bonds, due in 1935, at a money cost of 8.3 2151
per cent. It sold in 1921, $5,000,000 principal amount of 7 per cent. sinking fund gold debenture bonds due in 1941, and callable after 1931, at a cost of 8.1 per cent. It sold $4,000,000 of 6 per cent. preferred stock at a cost of 8.7 per cent in 1920.

Q. Now, will you tell us about the period from 1922 to 1930? A. 1922 was the year in which the North American Company appeared in our picture. They acquired control of our Company by purchasing $10,946,100 par value of our common stock, or a total of 72.7 per cent.

2152 *Eben G. Crawford—By Respondents—Direct*

Q. They have had control of The Cleveland Company ever since? A. Continuously.

Q. Yes. A. I am speaking about the period now from 1922 to 1930. In that eight years of course was the period of greatest growth in our Company. The physical property increased from $41,000,000 in 1921 to $128,000,000 in 1930. Gross revenues increased from $13,000,000 to $26,480,000.

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This was partially due to growth within our territory up
2153 until about 1926. Our territory principally comprised Cuyahoga County in which Cleveland is located. From then on we began to expand to the east so that by 1930, the end of this period, the territory had greatly increased in area, although not proportionately in property additions in that territory and revenues derived in that territory, but to provide for this growth and for this extension of territory and the acquisition of the property in this territory into which we extended there was a tremendous amount of capital required.

For instance, 1922 the Company issued $5,281,800 par
2154 value of common stock. It sold at $100 per share. In 1923, 1924 and 1925 the Company sold $15,281,700 of par value of preferred stock that sold at a cost of 6.12.

Q. Per cent.? A. Per cent. That is contrasted with these sales mentioned before at money costs over 8 per cent. just three or four years earlier.

In 1924 the Company issued $1,584,500 par value of common stock that sold at $150 per share. $50 per share of that went into capital surplus.

In 1924, $11,500,000 principal amount of bonds were sold at a cost to the Company of 5.2 per cent.

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In 1926, $10,000,000 principal amount of bonds were sold at a cost to the Company of 5.03 per cent.

In 1930, $17,029,800 of stated value of common shares were sold at $20 per share, which was the stated value. That is a total of securities issued in that period of $60,677,800. There were retired within the same period, $4,000,000 par value of 8 per cent. preferred, issued in 1920. That was retired in 1923.

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During this period, of course, the Company's financial condition greatly improved. There was a marked shift in the distribution of capital. The debt shifted from 62 per cent. of the total capital to 36 per cent. Preferred stock rose from 11 per cent. of total capital to 12 per cent. and the common from 27 per cent. total capital to 52 per cent. The ratio of debt to physical property decreased from 67 per cent. to 35 per cent.

The coverage of interest charges increased from 2.2 times to 4.4 times.

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Q. Did this result in a greater investment per dollar of gross revenue during this period? A. Yes, back in 1922 our ratio of property to revenue was 3.27, and in that period of 8 years it increased to 4.86. In other words, it took $4.80 invested in physical property to produce a dollar of revenue.

Q. Were any earnings left in the business during this period from 1922 to 1930? A. Yes, the dividend payments of the Company during that period were moderate and substantial surplus was accumulated. In 1928, $16,629,000 of surplus was capitalized and frozen in a stated value of com-

2158

mon stock which meant putting back in the business most of the surplus accumulated during that period.

Q. What were the total undistributed earnings during that period? A. They were $27,788,600.

Q. Did your business continue to increase during the period? A. It increased to a very marked degree. The annual sales increased from 500,000,000 kilowatt hours per year to 1,200,000,000 kilowatt hours. The average revenue per kilowatt hour, however, declined from 2.47 cents to 2.07

2159 cents.

Mr. Browning: I have reached a convenient stopping point, Mr. Examiner.

The Examiner: All right. We will recess until two o'clock.

(Whereupon, at 12:30 o'clock the hearing recessed, to reconvene at 2:00 o'clock p.m.)

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AFTERNOON SESSION

(Whereupon at 2:00 P.M., August 15, 1940, the hearing resumed.)

EBEN G. CRAWFORD the witness on the stand at the time of recess, resumed the stand and testified further as follows:

Direct Examination (Continued):

The Examiner: We will resume the hearing.

2162

By Mr. Browning:

Q. Will you now describe for us the period from 1931 to 1939? A. Of course that period from 1931 to 1939 covered the period of the great depression and the coming out of it, and the minor depression of the fall of 1937 to 1938, in those figures.

The growth of the business slowed down greatly, but it did continue. The fixed property account increased from 128,000,000 in 1930 to 143,500,000 in 1939—a growth of 11 per cent.

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Revenues increased from 26,480,000 in 1930 to 29,630,000 in 1939—an increase of 12 per cent.

Q. Did your rates continue to decline? A. Yes.

Q. And your production increased? A. Yes. The annual

sales increased from a billion two hundred million kilowatt hours in 1930 to a billion six hundred million kilowatt hours in 1939.

The average revenue per kilowatt hour declined from 2.07 cents in 1930 to 1.77 cents in 1939.

Q. Did you refund any of your capital during this period? A. Yes, we had a number of refundings. In 1931 we retired the five million 7 per cent. sinking fund debentures that were issued in 1921. They could not be retired earlier because of the covenants on retirement incurred at the time of issue.

In 1935 we sold 40 million of 3¾ per cent. first-mortgage bonds and retired a like amount, 40 million dollars of five per cent. bonds.

In 1935 also we retired 15,281,700 par value of six per
2165 cent. preferred stock, and issued in its place 4½ per cent. preferred stock, and in 1935 we reclassified certain common shares into $10,217,880 par value of preferred stock.

Q. Did your financial structure continue to improve? A. I would think it improved quite substantially. The ratio of debt in this period to total capitalization declined from 36 per cent. to 34. The ratio of debt to physical property declined from 35 per cent. to 28, and the coverage of interest changes increased from 4.4 times to 5.9 times.

2166 Q. You had a further refunding recently? A. Yes. In July of this year we sold 50 million dollars of 3 per cent. bonds, and retired 40 million dollars of 3¾ per cent. bonds, thereby acquiring ten million dollars of additional funds for plant expansion.

These 3 per cent. bonds were sold on the basis of money cost to the Company of 2.83 per cent., went to the public on the basis of 2.73 per cent.

As far as I know, that is the lowest cost long-term borrowing of an amount of that size by any utility company. We were very fortunate.

Q. Now, will you state what capital securities you have outstanding today? A. We have outstanding as of today 50 million principal amount of first mortgage bonds, 3 per cent. series, due 1970. We have outstanding also $25,498,900.00 of preferred stock, cumulative preferred, and we have outstanding——

Q. (Interposing) That is 4½ per cent.? A. Four and one-half. $4.50 dividend.

We have outstanding common stock, with a stated value of $40,871,520.00, with an earned surplus of $14,888,000.00. 2168
A total capital structure, then, of $131,258,420.00, of which 38 per cent. is represented by debt, 19 per cent. by preferred stock, 31 per cent. by common stock, and 12 per cent. by surplus.

—1,081—

Q. Does your public utility business differ from other businesses in the fact that service must be rendered, Mr. Crawford? A. I think it varies greatly from ordinary industrial and commercial business, in that respect. In the first place, we must give instant service when called upon by consumers, and in the second place, we must be able to 2169
provide in advance the necessary facilities to give that instant service.

Consequently we have to do a lot of long range planning of plant expansion, keeping in mind always having sufficient capacity to meet any demands made upon us with a sufficient reserve capacity to insure the ability to give service, even with important units, unavailable either through accident or through requirements of maintenance.

I don't know any other business that is quite so constituted. We must know, or must estimate, from two to three

2170 years in advance what our demands are going to be, and we must make the provision to be able to meet those demands. We can't give a deferred delivery, such as many businesses can. It is not an infrequent thing to order a machine tool and to say it will be delivered in two months or three months. It is not an uncommon thing for a woman to go into a shoe store for a pair of ~~s~~s, and, if they don't happen to have the style or the size that she wears, they say, "We will get

—1,082—

2171 them for you in two or three weeks." She goes along satisfied with that.

Our customers demand that when they flip a switch, that the lights will go on, or that the range will cook, or that the iron will iron. So I think, in that respect, our business is different in its requirement for long range planning, the long time procurement of the necessary facilities.

It takes a long time to build a power plant. It takes a long time to get a right of way for the extension of a transmission line and to build that line. So that I suppose we are probably very much in advance of most businesses in de-

2172 termining what our program of growth and expansion is to be. We have no control over ourselves.

We can't say, "We don't want the business to get any bigger; it is big enough." We can't say that—making a line extension to a factory—that we are not certain that that factory will be a commercial success and that we simply have to run the line and make the connection. If we didn't want to do it, the Utilities Commission would force us to do it, and that is just one of the risks of our business.

There is another thing requiring advance planning. We never know when something new will be discovered which

will increase the use of electricity. We didn't know in advance, when the radio was discovered—invented—what a tremendous user of electricity that would be.

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We didn't know that the refrigerators would go into most homes, when somebody announced an electric refrigerator, and we don't know today what the next thing is that may come tomorrow, that will increase the demands on our facilities.

It is one business that doesn't seem to be within the control of the management, as to how fast it must grow, and how fast capital must be provided to take care of that growth. 2174

Q. You must forecast your demand for some period in advance? A. Yes. We try to forecast our demand from three to five years in advance, but it must necessarily be a good deal of guess.

We have this other situation, too, that, having provided these facilities to meet a period of growth, then, should there come a depression or a falling off in use of our facilities, we have the problem of trying to keep those facilities working and producing, and that is a job of sales promotion in trying to increase the use of facilities already provided in advance for a greater use which has dropped off. 2175

Q. I want to get clear: What is your approximate minimum time in which you can increase your generating capacity? A. Well, that varies, Mr. Browning. There was a time back in the early thirties when the turbine plants of the

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manufacturers were practically idle, that you could get deliveries pretty quickly, and the delivery of a turbine possibly in from 12 to 13 months. Well, now, with the freight pick-up

that has come along, and particularly the preparation for preparedness program, or the defense program, the turbine shops of the manufacturers—and there are only three large shops of that character—General Electric, Westinghouse and Allis-Chalmers—they have their schedules pretty well filled up.

For instance, we ordered a turbine—the first turbine in this new plant that we are building. We got a 15 months delivery date on it and in the interim of six or seven months
2177 between that and when we ordered the second turbine, that period had jumped to 18 months, so I would say, in times like this, that you couldn't count on having a new power plant ready for operation in less than two years.

In other words, the second turbine that we are proposing to put into this new plant at East 70th Street will be delivered, if they keep their schedule—if some priority orders don't come between us and the turbine—will be delivered in April of 1942, and be ready for service in the fall of that year.

So that it would be a two-year—it is a two-year opera-
2178 tion to get that turbine built and in service, with the boilers

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and the condensers, and all the auxiliary equipment.

Q. So that it comes down to the fact that you not only must accommodate the customer instantly, when the customer requires service, but that you must have guessed two years in advance that the customer would require service? A. Yes. With the strong possibility of guessing it wrong.

Q. In that connection, is the Cleveland load subject to variations with changes in business conditions? A. Yes. It is quite subject to such variations. I think the more indus-

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trialized a community is, the more the electrical demand varies up and down with increased prosperity or—up with increased prosperity or down with depression. Consequently, Cleveland, being a highly industrialized city, has not the same stability of load that a city like St. Louis or Milwaukee would have.

On the other hand——

Q. (Interposing) How would it compare with Washington? A. Oh, Washington is a boom town. There is no comparison between Cleveland and Washington. Judging from 2180
the statistics that we see currently from the Washington Company they haven't done so badly in the last eight or nine years.

On the other hand, Detroit, being even more highly industrialized than Cleveland, the swings from high to low

—1,086—

are even greater than they are in Cleveland.

When Detroit was in the heart of the depression their business was off considerably more than ours was. Since recovery has taken place, their upswing has been considerably higher than ours has been. 2181

So that we have—in a word, we have very wide swings up and down, as business conditions change.

Q. What problem confronts you, then, as president of the company, when you get one of these downswings that you have had? A. Well, that is, of course—as president of the Company, that has been my principal problem during the period of my presidency, because I took over the presidency of our company at the very depth of the depression.

I think the biggest job I had, and certainly the one to which I gave a great deal of time, was in sales promotion,

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to try to—we had the plant capacity, we had the distribution and transmission lines, we had a certain territory; that territory would only produce so much business, and I think of it in this way, that it would be like a farm. We have a farm of a certain acreage. We had the barn and we had the tools and the tractors and the plows and all the necessary things to reap and take care of all the business that could be developed, and the grain that could be grown on that farm, and I would think of sales promotion as possibly the

2183 —1,087—

fertilization that we would put into that farm to try and get more crops out of it, so that in the time—at the time I took over the management of the Company, we redoubled our sales activities, our sales promotional activities, and we did everything that we could think of to get these facilities, which had been bought at the time when the load was high, to get them back to work.

I think we fertilized the land as strongly as we could and I think we are getting pretty good crops from it now, but it has taken a great deal of my thought—I would think pos-

2184 sibly more than any one thing except financing.

Q. Has your demand for capital been constant? A. Well, the demand has been continuous, but it is not constant in the sense that we may require about the same amount of new capital each year.

For instance, as I stated a little while ago, we had what proved to be an excess of generating capacity when the depression set in, and consequently the demand for capital investment, until we again brought consumption up toward the safe capacity of those existing plants, was not great.

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In 1939, however, when we were faced with the prospect of building a new plant, our construction budget jumped, and in 1940 the continuation of that new plant construction, together with the projected construction in '42, will mean that our construction budget in '41 will be on the order of

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ten million dollars per year, so that I would say that there was a continual demand for increased investment, but we don't get the necessary money to make that investment year by year. For instance, in—I have some figures here—from 2186
1931 to 1939 the average construction expenditures—by that I mean net expenditures; construction less retirements—amounted to less than 2½ million dollars a year.

In 1924 and 1926, and from 1928 to '30, they exceeded nine million dollars a year. In 1926 and 1930, each of those two years, the production budget was 16 million dollars. Now, those two years involved the building of the large power plant, one at Avon in 1925 and 1926 and one at Ashtabula in 1929 and 1930.

Since then, until we put in this new—started this new plant last year, there have been no unusually large construc- 2187
tion programs, except adding a turbine at one of the other plants.

That can be done with the plant built and all the facilities—the machine facilities in—can be done by spending very much less money per unit than is required when we start a new plant.

Q. Did you point out that the ratio of physical property to gross revenues and net income has been increasing? A. I pointed out at certain points, but I have here figures that

indicated that in 1919 the ratio of physical property to gross

—1,089—

revenue was 3.35 and in 1939 the ratio of physical property to gross revenue had jumped to 4.84.

Q. What about the ratio of physical property to net income before interest? A. That has increased since 1919 by 14 per cent.

Q. Would it be possible, Mr. Crawford, for you to provide for your needed plant expansion out of your own earnings,
2189 such as I understand is possible with many industrial concerns? A. You mean that, if we were to forego dividends, would we have sufficient earnings to take care of plant expansion?

Q. Yes. A. Well, it wouldn't be true with our Company.

Q. Could you give us an example? A. Well, now—yes, I presume that into the Ford Motor Company has gone very little new capital than that provided by the business itself. In other words, after the first small initial investments, I am under the impression that that plant has grown to its present size by merely plowing back earnings.

2190 That just wouldn't work, couldn't be done in our Company; in the first place, with the regulated rates, we wouldn't have sufficient earnings. As an example that you have asked for, in the period of from 1922 to 1930 our plant investment

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increased $87,400,000.00. Of that $87,400.00, $12,800,000.00 was provided by investment of depreciation reserves, leaving a balance required of $74,600.000.00.

Now, if all common dividends had been foregone——

Q. (Interposing) Dividends or earnings? A. Well, if dividends had not been paid and all earnings available for

common had been applied to capital they would have amounted in that period to $47,600,000.00, which means that, even had no dividends been paid on the common, and every cent available for such dividends had been reinvested in the business, there still would have been lacking 27 million dollars.

Q. How does your turnover of money compare with other business—for example, with department stores? A. Well, as I just pointed out, our turnover is at the rate of about a fifth of our invested capital. 2192

Mr. Binford: That turnover is annual?

(Discussion off the record.)

By Mr. Browning:

Q. You mean by "turnover" the annual turnover? A. Well, as has been pointed out, we turn over our capital about once every five years. I think, for instance, department stores turn over their capital many times in one year—from 6 to 8 times in one year. News stands turn their capital

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over almost every day.

I think we are the slowest business in turnover that I know. In other words, we have to invest more dollars to get a dollar of revenue than any business I know of, and that has been increasing, of course, since—in the last twenty years.

Q. I believe you stated that the North American Company's acquisition of control of the Cleveland Company occurred in 1922 and you have pointed out also the earnings

2194 that have remained in the business since that time, the improvement in your debt ratio, and your refundings.

Have you charged off any intangibles since 1922? A. We have made many charge-offs. We have charged off practically all intangibles other than a small amount of interest during construction. If you would like it in any detail, I can give it to you.

In 1927 we charged off $427,000.00, which was the cost of selling the 15 million dollars preferred stock back in 1923,
2195 which had been deferred on the books. We charged off the royalties, franchise and licenses that had been in the assets of the Company until way back in the Edison days, $673,000.00.

We charged off other intangible property, plants, at formation of the Company in 1892, total $608,000.00. We

charged off miscellaneous intangibles assets of $224,000.00. We charged off the securities of the Avon Railway Company, $200,000.00, and we charged off advances made to another subsidiary, the Power Construction Company, for $550,-
2196 000.00. In 1935 we charged off practically all miscellaneous items that were left, leaving only federal and state taxes on securities now outstanding, a total of $37,461.00.

So that our books represent property charged way down with never a write-up. There has never been an asset written up on the books of the Illuminating Company.

Q. Has the Cleveland Company received any assistance in its financing from the North American Company and its staff? A. Well, I think it may have received a tremendous amount of such assistance. We have been required to finance large amounts and we have been required to do it time and

time again, and to be an expert in public utility financing requires not only special training but constant use of that training.

A financial expert must have a continuous acquaintance with financial markets. Not only must he know prices existing on securities as of today, but he has got to know details of the types of securities, their different, individual features. He must know the price trends existing and he must know the type of—he must keep in touch with the type of securities

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which will bring the best market, which investors and dealers will buy, and that requires years of training, and it is a field in which there aren't very many men well qualified. He must also know—someone must know, in providing the financing for a Company, the proper provisions and covenants and restrictions and what not that go into corporate mortgages.

There is a good deal of difference of opinion at all times, I think, as to what should go in a mortgage, both from the standpoint of the borrower and the standpoint of people who are supposed to lend the money under that mortgage. 2199

Such mortgages change. For instance, our present mortgage is a totally different instrument than the one that we financed in the earlier years of the Company. The restrictions are different; provisions are different; the covenants are different, and someone has got to keep in constant touch with the development of utility financing.

Then, again, it might be said that you can look to investment dealers for sufficient advice. We haven't found that to be true. The investment dealer——

2200 Q. (Interposing) You mean by that the investment banker? A. Yes, the investment banker to whom we might sell securities.

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I was in the investment banking business myself at one time and I think it is perfectly true that the investment banker is like any other merchant. He wants to buy the kind of merchandise or stock that he thinks he can sell, and he wants to buy it at a price at which he thinks he can sell
2201 it and make the necessary profit or the desired profit. So we felt that we couldn't rely on the advice of any investment banker as to covenants, call prices, sinking fund provisions, or even prices and spreads—they have always been a matter of argument and discussion.

Q. On the technical side, is there a fundamental difference in approach between the investment banker and a company executive? A. Why, yes. As I tried to point out, the investment banker wants to impose as many restrictions as he can on the borrower for the protection of the lender.

On the other hand, the borrower, seeing an increasing
2202 requirement for capital funds, works in his negotiations with bankers for freedom of action—something that won't cripple him the next time he needs to provide capital.

Those things, when you have time to discuss these things —and you usually must take time—sometimes it would take a long time ironing out the point of view of a banker or group of bankers with that of the borrower.

Q. The security ultimately issued, then, is a compromise

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between the two points of view? A. It is bound to be a

compromise. Of course, it depends on market conditions somewhat. In a so-called buyers market the restrictions can be pretty severe. When a Company has to have money, when money isn't available or easy to get for that particular class, then the bankers can tighten up pretty strong on you, as they did on us around 1920. On the other hand, when there is a great deal of money for investment the borrower can, I think, with more success, endeavor to ease the restrictions which will give him more freedom without impairing the security.

Q. Is this conflict, which you are describing, a matter 2204
of lawyers' argument? A. No, I don't think it is. I think it is a matter of business judgment and discretion, rather than legal details.

Q. What about the paper work done in connection with these security issues? A. Of course that is perfectly tremendous, particularly since the Securities Exchange Act was enacted and the Public Utility Holding Company Act was enacted.

Q. There was some before then, wasn't there? A. Oh, there was always a good deal, but it has been multiplied in 2205
the last few years, and it takes a lot of time and a lot of work by a lot of people.

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For instance, in this last financing that we were required to do, there were prepared a total of 98 documents covering one thousand five hundred fifty-seven pages. Then again time is a very important element. The Company wants money and it must be certain how to get it. Bankers are not willing—nor should they, I think, especially in times of stress—to carry long time commitments, and the result of

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that is there must be a pile of work condensed into the shortest possible time.

The work must be organized and finished within a rigid time schedule. Now, ever since The North American Company took control of the Cleveland Company—and that was about the time that our demands for capital became really great and pressing in that expansion period of the twenties—we have leaned on North American to do many of these things.

2207 We haven't kept on our staff a fiscal expert. The treasurer of our Company—as I pointed out in my testimony on the organization—has one assistant in treasury matters. To have had such a man as treasurer of the company would have meant charges, and the development of utility financing would have been a heavy expense to the Company.

Whether we could have even gotten one or not, I question, and if we had gotten him, whether he could, with the limited experience that he would have had in our company, the intervals between financing, if he could have kept abreast

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2208 of the developments, I doubt very much.

All this time, since I came with the Company in '21, and since the North American assumed control in 1922, we have looked to Mr. Fogarty for that kind of assistance. He at that time was secretary of The North American Company, and I was secretary of The Cleveland Electric Illuminating Company, and he and I together—with he doing most of the thinking on it—kept abreast of markets, banking, prices, the developments in indentures and what not, and of course he had a very wide experience, because while we would only finance this year and then possibly three years later, and

then again five years later, one or more of the constituent companies of The North American Company was doing financing nearly all the time, so that Mr. Fogarty was constantly abreast of financing requirements, and I think his help to us not only saved us a lot of money in having to provide a staff to do that sort of work, but I think his knowledge and experience and constant acquaintanceship with what was going on, served us in better stead than any man we could have hired to do it; even if we had hired Mr. Fogarty himself and put him out in Cleveland, he wouldn't 2210
have been as valuable to us, he couldn't have been as valuable to us as he was getting this constant contact and experience with banking markets year in and year out.

Q. That is, you could not give him the practice? A. No.

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He wouldn't have the experience or the contacts out in Cleveland. He has been in constant contact, not only with bankers but with big institutional buyers, and I think his whole work has been invaluable to us.

Q. Have you on your Cleveland staff an expert on the technical terms and provisions of corporate mortgages, and 2211
that sort of thing? A. No. And by the same token I don't think we could have had such a man. In thirty years we have only written two mortgages, and we just haven't felt that we required such a man or such a staff, knowing that we had at our right hand all the time the staff of The North American Company, not only Mr. Fogarty, but, as he was —he was secretary for the Company for many years, then he became vice president of it, and then he was succeeded as secretary by Mr. Piske,——

2212 Q. P-i-s-k-e? A. P-i-s-k-e. —who had trained with Mr. Fogarty, had been his assistant all the time Fogarty was working on The North American financing and then when Mr. Fogarty was made president of North American in '34——

Q. (Interposing) '33? A. No. I think—was it in '33?

Mr. Browning: Off the record.

(Discussion off the record.)

2213 A. (Continuing) Well, then, Mr. Piske became vice president —1,098— of the Company and Mr. Hartel, who had trained for years under Mr. Piske, took over the secretarial and financial details.

Mr. Hartel is now secretary of The North American Company. I don't think we could have mentioned in dollars the value that that help has been to the Illuminating Company in raising funds, and not only raising the funds but raising them in the right way, and at the right rates, and with indentures that are not too onerous, and that kept our financial
2214 structure in proper balance at all times—I just can't say too much about the help that I think we have gotten from the North American Company, particularly in those three men—Mr. Fogarty for a long time, then Mr. Fogarty and Mr. Piske, and then Mr. Fogarty and Mr. Piske and Mr. Hartel.

Q. Now, can you mention specific illustrations? A. Yes. We had, as I pointed out either in testimony or in one of these exhibits, we had an outstanding $800,000.00 of six per cent. preferred stock which had preemptive rights, and which

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was non-callable. In 1923 we wanted to raise money by the sale of preferred stock, and we knew that we would have to have money from time to time, and we figured that a part of the capital retirements from time to time, as the Company grew, should be preferred stock. The Ohio law at that time didn't authorize serial preferred stock, but I had many consultations with Mr. Fogarty, both in New York and Cleve-

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land, on how we could do this job, and I may say that the solution of it, that the stock as it was authorized and as the 2216
amendments to the articles permitted, did enable us to, without having serial preferred stock, to keep selling from this issue as we did.

Then again in '24, we needed—in 1924 we came to a place where we could see large capital requirements. We had a mortgage written in 1939——

Q. 1939? A. 1909. (continuing)—limited to 30 million dollars, limited to one coupon rate and with burdensome call provisions. As I say, the limit of bonds to be issued under that mortgage was 30 million dollars, and we already had outstanding 18 million, five hundred thousand, so that 2217
there were only 11½ millions available under that mortgage.

It would have been burdensome to call those 18½ million first mortgage Fives. It was a question whether the market would have provided enough money at a proper price to retire them and give us the money we needed for expansion.

It was somewhat of a problem. We had to build a plant at Avon, which was going to take some 15 million dollars. There was much discussion as to how that was to be done. It was even possible it might be necessary to form a separate

corporation to build and own that plant and lease it to the

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Illuminating Company.

Mr. Fogarty, however, worked out a new general mortgage which solved our problem. In the first place, it was open end. It had no limitation as to the amount of bond that could be issued thereunder. It was much more liberal in its provisions and in order to raise 11½ million dollars, which we felt that we needed at that time, we took down the
2219 unissued 11½ million of first Fives of 1909 and placed them as collateral, together with a second lien on all the assets of the Company, and issued thereunder 11½ million of general mortgage Fives, and got the new mortgage executed and in operation.

That idea was entirely Mr. Fogarty's.

Q. Was that a new idea? A. It was entirely a new idea, as far as I know. I never heard of it being done before. To show the advantage of it, we were able two years later to issue another series. The first bonds we issued under that
a mortgage were Fives due in '54. That was in '24, and in
2220 1926 we issued ten million more of another series Fives due in 1961. I think we got a little premium for those bonds.

Q. Now, you say that he planned these operations? A. I would say that he not only planned them, but that he actually designed them.

Q. Did he also negotiate with bankers? A. He negoti-

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ated with the bankers—he fought with the bankers on the details of the bonds. He negotiated with the bankers, I would say, right down to the final determination of the amount of spread, and the price of issue, and then Mr. Lind-

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say and I would go down and work out that last final detail with Mr. Fogarty. He was always with us.

Mr. Browning: Off the record.

(Discussion off the record.)

By Mr. Browning:

Q. Now, what about the recapitalization of 1929? A. You see, we had this 15 million odd of preferred stock issued in '23, '24, and '25, outstanding, and it was always slightly under a cloud from the fact that there was another issue ahead of it, of an uncallable preferred stock that was issued back in 1892 and 1897, so the stock couldn't be called the first preferred stock of The Cleveland Electric Illuminating Company.

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It was the six per cent. preferred stock authorized in 1923. We were very anxious to find a way to dispose and eliminate that old $800,000.00. It didn't amount to much in money, but it did throw a cloud upon our other securities and we worked out a plan, for which I think it is only proper to say that Mr. Fogarty is largely responsible, of exchanging that stock for common, and that was done in 1929. The stock was retired, every share of it was converted by the holders

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into common shares, with the result that the six per cent. preferred stock, authorized in 1923, automatically became a first preferred stock, and I think our financial structure was certainly benefited by the change. It brought us down into having only three securities—mortgage debt, one issue of preferred stock, and common stock.

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Q. Did Mr. Fogarty work out a proposed refunding in 1933? A. In 1933 Mr. Fogarty, in consultation with me, went quite a long way toward refunding our Fives by placing a lower coupon rate bond directly with the insurance companies. He carried on negotiations with them and consultations with me for a number of months. It hadn't been done yet, but he thought it might be done.

Q. That is, it was a new idea then? A. It was new as far as any of us knew about. It was new to me, and I think

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new to everybody. I don't think there had been any private placements of anything like the size of that, with insurance companies.

Mr. Browning: Off the record.

(Discussion off the record.)

A. (Continuing) They got into some very hard trading and after pretty continued negotiations the matter was dropped just before we recommended that, in view of the restrictions, that the insurance companies were trying to place on the

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mortgage, that we had better not do it, but there was a lot of work done on it and a lot of thinking, particularly by him.

Q. During that period, were you in communication with Mr. Fogarty? A. Well, I have always been in constant communication with Mr. Fogarty, and at that period, when those negotiations were going on, we were just in constant communication, either by my going to New York, or by telephone, or by letter.

Q. What about your 1935 bond financing? A. Well, as you know we had 40 million dollars of five per cent. bonds

outstanding, under the general mortgage which became a—automatically became a first mortgage with its retirement.

Q. With what? A. With the retirement of the collateral, which was effected by the retirement of this 1935 financing. Five per cent. seemed like pretty cheap money back twenty years ago, but it looked a little dear in 1935, so Mr. Fogarty and I watched the market, checked the market, when we were able to retire all of those first mortgage bonds, and general mortgage bonds, and bring out an issue of 3¾ under a new mortgage. 2228

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Q. Was that a difficult operation at the time? A. Well, I think it was difficult at the time. I think it required a lot of work. I know that Fogarty and I worked continuously on it for a considerable period of time before we succeeded in doing it. The deal went over very well. We received a hundred and a half for the bond which was a very favorable price at that time. Mr. Fogarty handled all necessary negotiations with the bankers except getting down to the final trading for a half point when I stepped in and reinforced him somewhat. That was a very much better mortgage than 2229 the mortgage we had. It gave us, among other things—we were in a better period to do financing than we had been before. They learned how to write better mortgages, I think, and a so much more liberal mortgage and a very satisfactory piece of financing.

Then again in 1935 we made a reorganization of the stock of the company and sold four and a half per cent. preferred stock to retire the outstanding six per cent. stock, reducing our preferred stock dividend charges. That was done, of

2230 course—Mr. Fogarty and I were working constantly on all these things.

Q. This was a clear-cut serial preferred stock? A. Clear-cut serial preferred stock.

Q. Had Mr. Fogarty had experience with that in other dealings? A. Yes, he had had—He had done that in other

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North American Companies, certainly in Union Electric of Missouri, and I don't know but possibly other ones, but he
2231 had had experience with that type of preferred stock.

Q. Now, let's take the most recent illustration, your 1940 financing. Will you tell us about that as an example? A. Well, of course we had had these forty millions of three and three-quarters which were listed on the New York Stock Exchange, had been selling substantially above their call prices, other companies were doing refunding. We were very anxious to refund these bonds. Unfortunately, however, back in the fall of '38 we got into a very extended rate controversy with the city council of the city of Cleveland. The
2232 rates that we would be able to charge in the future were uncertain and we felt that we would have been greatly penalized to have tried to bring out a bond issue and get the money rate that we ought to get until we had that rate controversy settled.

Of course we were hopeful all the time that we might be able to bring about a settlement, but the controversy got more extended and more bitter and finally the council passed an ordinance which we felt was unfair and unreasonable and we couldn't accept, and we appealed to the Public Utilities Commission and the controversy had a good deal of publicity,

and we felt certainly that until that matter was settled, it

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wouldn't be possible to refund our old bonds and get some new money which we could see that we needed, at the best possible price.

I was very busy in this rate case. I had charge, of course, of the necessary negotiations with the council on behalf of the company. We had to employ engineers to make engineering studies and to supervise an inventory and appraisal, and the thing went on and on and on. Then, too, we were engaged 2234
in the designing of this new plant. That took a good deal of my time and consideration.

Q. Had the war disturbed you? A. The war overhanging us, which we didn't know but would break the market almost any minute. So, as a matter of fact, the possibility of refunding and refinancing just seemed out of the question. We got the rate matter settled early in June.

Q. 1940? A. Of this year, or possibly the last week in May. By compromise, the City Council passed an ordinance establishing rates for four years which we accepted. It was a compromise offer in our part which they accepted. Con- 2235
sequently, the litigation was settled and the case withdrawn.

I had not thought about any new financing and Mr. Fogarty called me up along the latter part of June.

Q. Will you give us the exact date on that. I think

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it is interesting. A. Well, it was on the morning of June 19 that Mr. Fogarty called me and he said that if we could get the necessary papers filed before the end of June, we could do the refunding necessary to retire the three and three quarters and provide us with ten million dollars of new money

without incurring the time and the expense and the delay of a new audit, that 1939 closing figures could be used as the basis for registration statements and other required documents. He said he had consulted with bankers and counsel in North American and felt that it could be done within that length of time and it did not seem to me possible. He thought —Mr. Fogarty thought that by working day and night—which was done—and by adapting, by making some changes that could be made in the existing mortgage that this could
2237 be done. Of course I gave the word to go ahead because there was nothing that I wanted any more than to get those three and three-quarters paid off, and some lower rate bonds, and then I wanted ten million dollars of new money to provide this plant expansion. I don't know how they did it but that outfit down on 60 Broadway, The North American Company, together with counsel, did, I think, a super-human job and it just couldn't have been done by us, ourselves.

At any rate, it was done and we got filed down here in the S. E. C. in time to make an offering on Friday, July 19—

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2238 we just worked like thunder to get that off on Friday the 19th because we were afraid to let it go over the next week on account of this possibility of an invasion of England or something that would break the market.

Well, we were very fortunate. We got a good price for the bonds. We got ten million dollars for plant expansion, and we were all very happy about it.

Q. Will the Cleveland Company have financing problems in the future? A. I should think that is almost certain. As you know and has been testified here, our investments grew from thirty-two million property account in 1920 to one hun-

dred and twenty million dollars in 1930. That required an average investment of $8,800,000 a year. We found ourselves, of course, when the depression started, with more plant than we needed and, as I have testified, our problem was not so much to build more plant as it was to keep the plant we had busy.

In 1939, however, our business was back at a record-breaking volume. We sold more kilowatt hours than we ever sold before. And then, of course, preparation for demands that might be put upon us for war preparation has required 2240
us to make a very heavy plant investment. Our business is increasing very rapidly, and of course for every million dollars of increased revenue we must find five million dollars of capital to take care of it.

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If our growth in the next five years would require an increased plant capacity of 100,000 kilowatt hours, it would mean an investment of 10 million dollars in generating facilities alone, assuming that generating facilities can be built for a hundred dollars per kilowatt.

Of course, for every dollar we invest in generating plants 2241
we have to invest from two to three dollars in transmission, distribution and utilization, so that we are going to have, if business continues to grow, a requirement of a lot of money every year for plant expansion.

I don't mean that we'll get the money every year but we will be spending large amounts for plant expansion every year, and our budget for 1940 is about ten million dollars. Our budget for '41, while it is not completed yet, will run at least that much and possibly a trifle more. We don't know what the industrial growth of our section will be. We

are optimistic about it. We have room for industrial development and it doesn't seem to me that it is unlikely that our plant investment will grow at the rate of ten million dollars a year in the next ten years.

What we call the Eastern Division, which I think Mr. Lindseth described, that territory lying to the east of the Chagrin River and which is operated separately in many respects from the Cleveland Division, was acquired with the thought that it was an excellent area for future industrial

2243 —1,110—

development.

It has the same freight rates that Cleveland has; it has the same or practically the same railroad transportation; it has access to harbors for lake transportation. The Cleveland—the city area for heavy industrial use is pretty well taken up. Taxes out to the east are very much lower than they are in the city and, as a matter of fact we look for—the trend of industrial development has been to the east from Cleveland, and we look forward to a very active industrial development, in what we call the eastern division. As a mat-

2244 ter of fact, we are already in contact with three large prospective power users to be located in that district. Each one of these will use from 20 to 35 thousand kilowatts, if we are successful in getting them, and it will mean that a very substantial plant expansion will be required.

Of course, as has been stated, we must estimate in advance any demands that we are to be able to take care of. A factory using a large amount of power may be built in 6 months, but we can't provide power for them in six months. It may take us a year and a half to two years to do it.

So we must keep ahead of any possible demand, and we must provide the funds to do that, and then, of the many millions of new capital that will be required if this expansion as hoped for does take place, a large proportion of it must come from equity capital.

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Since 1930 there has been little or no equity capital raised in the utility business; it has all been done by borrowing.

We have always managed, we think, to keep our financial 2246
structure in good balance, and if we continue to do that, as we must, it means that junior capital has got to go into this company.

Q. Don't you think it is a little better than good balance, Mr. Crawford? A. What?

Q. Are you proud of it? A. I prefer to have someone else say that. We are very proud of it, off the record. The North American Company has put into the Illuminating Company in the last 20 years over 4[illegible] million dollars of equity capital. In the next 20 years somebody must provide, I think, an even 2247
greater amount. The North American Company, with its investment already made in Cleveland, with its knowledge of the management, with its satisfactory experience over a long time in that Company, seems to me is the logical source for us to look for this equity capital.

I have testified also to the help and assistance that has been given us by the executives of the North American Company.

If we were to be deprived of this help, we would certainly

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be put to great expense. We would have to hire people that we do not now hire, and I question, as I said before, whether we could hire and retain the expert advice and help and assistance we have had from the executives of The North American Company.

I feel certain that, if we were dissociated from The North American Company, that the result would be substantially increased financing costs.

Q. Mr. Crawford, do you consider it possible to secure
2249 the necessary capital for the Cleveland Company in Cleveland? A. I think that would be entirely out of the question. I don't think there is sufficient—nor has there been sufficient investment capital in Cleveland to have provided the equity capital that we required in the past.

I don't know of any issue—certainly no utility issue—that has ever been issued in Ohio—take not only Cleveland but Ohio—that required the amount of cash that had to be put into this Company by somebody as equity capital.

As a matter of fact, I question very much whether, even if the money were available, Cleveland investors would have
2250 put up the money we have needed in the past, or that we will need in the future.

They are too close to the situation. They know we have—they are fully aware, from time to time, that we have municipal competition. The newspapers keep them advised of that quite frequently. I just feel certain that Cleveland

couldn't have provided the capital required to take care of the growth of this property and——

Q. (Interposing) What about this theory that has been advanced of local patriotism? Have you found any local

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patriotism in Cleveland? A. No, sir, I never saw very many patriotic dollars any place. They are not at all sentimental, dollars aren't, and well, as a matter of fact, in this 50 million dollar bond issue that we have just sold, I used all the influence I could bring to bear to get the Cleveland dealers as large a participation in that 50 million as I could, or as they wanted, and they were very happy and well satisfied when we got them 2½ million dollars out of the fifty.

Q. Was all that placed in Cleveland? A. No, that was placed in the territory served by Cleveland bond dealers and investment bankers.

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Q. So that not even all of the 2½ million dollars was placed in Cleveland? A. No. Cleveland, as you know, was pretty hard hit back in the early thirties, not only by failures of railroad financiers, but also with two very severe bank failures; two of the three largest banks closed up and Cleveland funds have been scarce for any kind of investment since that time, and then particularly, I think, Cleveland local capital has been interested more in industrials, steel

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business and motor car business, and lake transportation, iron ore, coal, and that sort of thing, than in any other type of investment, so that I can state without qualification that Cleveland could not have financed the growth of this Company.

Q. You mean that the Cleveland investor would be more interested in industrials with larger profit possibilities? A. More speculative, more chance of making money. That is just the kind of town Cleveland is.

The Examiner: Let us have a short recess.

(Whereupon a short recess was taken.)

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2254 *Eben G. Crawford—By Respondents—Direct*

By Mr. Browning:

Q. Have investors been unable to obtain the information necessary to appraise the financial position or earning power of The Cleveland Company because of the absence of uniform standard accounts? A. No. Since 1911 this Company has continuously used the Uniform Classification of Accounts of the Public Utilities Commission of Ohio. The Public Utilities Commission annual reports are available for public inspection. We have published annual reports to stockholders
2255 every year since 1918. We make quarterly reports to financial publications and financial services such as Moody's and Poor's Standard Statistics, Wall Street Journal and Standard Stock Exchange.

We make reports frequently to the Federal Power Commission, voluntary reports, and to the S. E. C., and the Public Utilities Commission Classification of Accounts is the basis for all these reports.

Q. Are your securities issued without the approval or consent of a governmental body of the State of Ohio? A. All of our securities are subject to the consent by the Pub-
2256 lic Utilities Commission. It requires written application on our part, a public hearing by them, and an order signed by the Commission.

Q. Has The Cleveland Company issued securities upon the basis of fictitious or unsound asset values having no fair relation to the sums invested in or the earning capacity of

the properties? A. Well, there have been no such security issues. There have been no paper profits in inter-company transactions and very few inter-company transactions of any

kind, and such transactions have always been at cost. Hence, no such securities have been issued on either such basis.

Q. Have you issued any securities under circumstances which have subjected you to the burden of supporting an over-capitalized structure and which have prevented you from making voluntary rate reductions? A. I think quite the reverse is true. Our total capitalization is only 83 per cent. of our $145,000,000 property value. Interest charges are 3 per cent. on $50,000,000 of bonds and 4.5 per cent. dividends on $25,500,000 of preferred stock. 2258

There have been no loans made either to the North American Company or no borrowings from the North American Company. We made seven voluntary rate reductions in the past 16 years. The average revenue per kilowatt hour residential has declined from 5.06 cents in 1924 to 3.58 cents in 1939, and a very substantial rate reduction was just made effective in 1940 which will still further reduce that revenue.

Q. Do you know whether there has been any lack of economy in the raising of capital in the Cleveland Company? A. There has been no such lack of economy.

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Q. Mr. Crawford, where is the final authority in the management of the Cleveland Company? A. The final authority of management in the Cleveland Company is in the board of directors.

Q. Is there an executive committee? A. Yes, there is an executive committee of three members of the board. The board has seven members. The executive committee is composed of three of those seven members and has consisted since I have been president of the Company, of Mr. Fogarty, Mr.

2260 H. C. Freeman, a director and vice president of North American Company, and myself.

Q. What are the functions and duties of the board of directors? A. Well, the board of directors, I think, does what most such boards usually do; specifically it elects the officers of the company, fixes the compensation, selects the executive committee, declares dividends, approves construction and operating budgets, authorizes financing and the issue of securities, authorizes the president to act in matters
2261 such as rate reductions. It authorizes payments to the trustees of the Employees' Fund. It acts on all formal matters.

Q. And it is generally in charge of the management of the business? A. Very actively so.

Q. What has been the composition of your board of directors? A. Well, for more than 20 years we have had, out of a

board of seven, three members resident in Cleveland, a fourth one in Cincinnati, and three outside the state. For more than 30 years at least two representatives of the Company's staff on the board have been resident in Cleveland. At the
2262 present those two would be Mr. Frank Cobb, and myself.

For the same 30 years one representative has been a resident in Cleveland whose interests are not specifically utilities. That particular representative is Harold T. Clark. Such an arrangement on a board of seven makes for a desirable balance between representatives of the local management and the local community, the controlling stock ownership, the minority ownership, and generally broad business viewpoints.

Q. You say that there are seven directors of the Company? A. Yes.

Q. Of whom you are one? A. Of whom I am one.

Q. Will you tell us who the other six directors are? A. Frank M. Cobb, who is our general counsel, a lifelong resident of Cleveland, has been a director practically all the time for the last 28 years. He has been associated with the Company since 1902 and has been full-time office counsel since 1914. He was made general counsel of the Company in 1924. Mr. Cobb is certainly one of the best informed lawyers in Ohio on public utility law. He has practiced before the Commission for our Company since the Commission was formed 2264

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in 1911, and he was a member of the faculty of Western Reserve Law School for many years. He is a man of means and substance in the community and very highly regarded.

Harold T. Clark, who has been a director with the exception of a very short interval since 1922, was for many years a senior partner in the firm of Squire, Sanders and Dempsey. This firm is one of the leading law firms in Ohio. However, in 1938 Mr. Clark retired from Squire, Sanders and Dempsey and opened his own office. He has remained on our board, of course. He is a very important man in civic affairs 2265 in Cleveland. He is a man of means and has taken large interest in public affairs.

He is president of the Cleveland Museum of Natural History. He is a member of the Regional Association of Cleveland. He is very active in the Cleveland Association for the Blind, and the Cleveland Museum of Art, the Western Reserve Historical Society, and many other civic affairs.

William H. Fillmore. Mr. Fillmore has been a member of our board since 1913 and lives in Cincinnati. He is an investment banker in Cincinnati and has represented, I would

2266 *Eben G. Crawford—By Respondents—Direct*

say, the minority interest in the voting stock all that time. He is a very cooperative director. He is very constant in his attendance. I don't think—I can't remember his ever being absent from a meeting of the board since I have been associated with the Company, and he corresponds with me continually and frequently about the affairs of the Company. He

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has been an excellent director.

Another member is James F. Fogarty, chairman of the
2267 Finance and Executive Committee of the North American Company. He has been employed by the North American Company since he was a boy, more than 38 years. He has been a director of our Company since 1933. He is also a member of the executive committee.

H. C. Freeman, a member of the board since 1934, is vice president of the North American Company. He is a former member of the accounting firm of Touche, Niven and Company. He is an accountant of the highest ability. He has been a member of the executive committee of our Company since his election to the board in 1934.

2268 The seventh member is Mr. Frederick H. Piske. He is a vice president of the North American Company and has been an officer of that company for many years. He was elected to the board May 1, 1939, and has not been able to attend many meetings. He has been quite seriously ill for many months, although he is improved and I think will probably be able to take an active place on the board from now on. Before his election to the board, as I have stated, he was a great help to us in financial and corporate matters.

Q. Has there been any dissension within the board of your Company during the last 20 years, or since the period of

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North American control? A. There has been no dissension of

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any character. I don't know of any action that has been taken by the board since 1922 in which there has not been unanimous affirmative vote by all members present. There has been no dissension or difference of opinion of any kind. There have been discussions between me and members of the board both prior to and following board meetings, but in the board meetings we have never had any disagreement, within the board, and it has made my lot, since I have been running 2270 the Company, very happy when compared with the executives of a different kind of a board. We have had one or two instances in Cleveland where companies have had difficulties, I think largely because of the fact that the board was composed of—the boards were not harmonious.

In our Company there has been no such thing as that. The relationship has been perfect.

Q. Is this harmony in the board of directors important in the business of the Company? A. I don't know how anybody could run a business without it. To me it is essential. I think it is most important. 2271

Q. You mentioned the executive committee. What is the function of that committee? A. The executive committee enables the president and the management to consult with the board or representatives of the board from time to time between directors' meetings. The executive committee has been given very broad powers by the board, in fact its powers

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enable it to do anything the board might do except to elect senior officers of the Company. I, as president of the Com-

pany, am in constant contact with the other two members of the executive committee.

Q. With Messrs. Fogarty and Freeman? A. Yes. I go to New York very frequently to consult with them informally and several times a year, probably, we take formal action on certain matters and when that is done minutes of the meeting are kept and submitted to the board of directors at its next meeting and approved and ratified by the board. The board meets quarterly ordinarily, usually in Cleveland,
2273 practically altogether in Cleveland except at such a time as this recent financing when we had to get all the board members at one place at one hour and get things signed down in Washington by aeroplane in order to meet a time schedule. Nearly all of the meetings are in Cleveland and the meetings of the board are very faithful in attending.

Q. How many presidents of the Cleveland Company have there been since 1922? A. Only two, Mr. Robert Lindsay was president from 1921 to 1933, and myself from 1933 to date.

Mr. Lindsay came to Cleveland in 1893 to superintend the building of the Canal Road plant of the Company at that
2274 time. When that plant was completed he was employed as general superintendent and from that time until the time of his death, or until shortly before his death, he was the active

manager of the operations of the Company, that is the production and distribution of the Company's product. He was made vice president and general manager in 1914 and president and general manager in 1921, and under his administration the assets grew from $42,000,000 to $128,000,000.

Q. Now, will you describe for us your own functions as president of the Company? A. Well, I would say that my

functions are many and diverse. Taking them in some kind of order, I determine the personnel of the Company, that is the supervisory personnel. I assign that personnel to its duties, its responsibilities. I make promotions. I determine salaries. I assign department heads and officers to special duties when special occasions arise.

With respect to salaries we have a wage committee consisting of Mr. Hough, Mr. Kermode and Mr. Ober, who pass on salary or wage increases where the salary involved was less than $4,000 a year. On salaries over $4,000 a year, except 2276
the officers of the Company, I determine such salaries and make increases on recommendations after hearing recommendations from Mr. Hough or Mr. Ober, or Mr. Gillie, Vice President in Charge of Sales.

For example, take Mr. Lindseth. Mr. Lindseth was for a number of years an engineer out at our 70th Street plant, in charge of a group of testing engineers. A few years ago I wanted a special survey made of the sales department and I selected him to do that work. I was so favorably impressed

with what he did at that time, that I attached him to my 2277
office and when this rate case matter came up I not only put Mr. Lindseth in charge of the details of the rate case and of the inventory and appraisal made necessary by the rate case, but in consultation with him I detached from the regular operating staff certain members that we felt could be spared and could do the work properly and assigned them to him for that purpose. That is just an example of my action with respect to personnel.

From the publicity standpoint, the publicity of the Company is handled by Frank J. Ryan who is Assistant to the President. I spend a lot of time and a lot of thought with

2278 Mr. Ryan on publicity matters, on how much money may be appropriated for pubilicity purposes in a year, in other words the budget for publicity, and how that money shall be spent as between newspaper advertising or mail advertising, or bill boards, or in what media it will be placed. As I have said in my previous testimony, for the past—since 1933 load building has been our biggest job and consequently I have spent a great deal of time with the advertising department.

The same is true with sales promotion. That is in charge,
2279 as I said, of Mr. H. C. Gillie, Vice President in Charge of Sales. I think I have spent more time in the last seven years, barring rate cases and hearings, with the Sales Department of the Company than any other way. We spend a lot of money in sales promotion. The sales promotion budget runs between 2 and 3 per cent. of our gross revenues and that

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money can be spent wisely or unwisely and I have devoted a lot of my time to this sales department for the past six or seven years.

Q. In addition to supervising the work of sales promo-
2280 tion, do you do a little selling, yourself, Mr. Crawford? A. Why, I sell all the time, I think. I try to. I don't let any opportunity to sell go by. If I am out for dinner in the evening I try to sell my host an electric range to have it installed before he invites me the next time. I think that I sell all the time, Mr. Browning. I am awfully keen on that part of the business. I have been successful myself in getting some very large accounts for the Company by constant cultivation and sales work with the executives of those companies.

(Discussion off the record.)

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Q. What about the purchasing policy of the Company, Mr. Crawford? A. Of course, that is a big job and it is something that involves a lot of money, with construction budgets running from three or four million a year up to ten million dollars a year, and I devote a great deal of my time to it.

I hold frequent meetings with my associates. We watch pretty carefully the price trends and I try to save as much money for the Company as I can in the buying of materials and supplies. For instance, at the outbreak of the war we determined that copper would probably go up if there were 2282
a war and we bought a year's supply of copper for a little less

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than ten cents a pound. We had the money and I felt that it might go up very substantially. I decided that we would buy a year's supply of copper and we got it under ten cents a pound. It did go up but it softened and we have not saved as much money as I thought we might, although we are protected on it.

The same thing is true with fuel. I have interested myself in fuel buying a good deal. While we have a very skill- 2283
ful fuel buyer, the fuel expense of the Company is one of the three or four large items of operating expense and we have maintained under my direction a very substantial inventory of coal for several years. In the first place we have ample storage facilities. We are able, with those storage facilities, to buy when the market is soft and having an ample supply of coal we are able to drop out of the market temporarily when prices stiffen, and as most of our coal burning is slack and as slack is apt to be the bottleneck in the output of the mine, by being able to store slack—and we

have been doing that very successfully, Mr. Maxwell—we can pretty well keep the price of fuel within range.

We have at present about 500,000 tons of coal in storage, which is about five months' supply, and we consume about 25,000 tons a week in the summertime and most of our coal is not put in storage at all. A trainload of coal a day is what we burn, practically. So, I take a great interest in that item of expense.

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2285 Then again in the purchasing of the equipment to go into a new plant I am the final authority in the Company on where that will be bought.

Q. You mean where it will be placed? A. Where the order will be placed, where we will get the equipment.

Q. Oh, I see; the equipment. A. Yes. I have to take an interest in that because we have a lot of customers who supply things that are required by us in the construction of a new power plant and we have to maintain some sort of a balance of reciprocity.

In the first place it has been a Company policy for many
2286 years never to buy anything outside of Cleveland that we can buy in Cleveland, all other things being equal. We think it is more important to keep our dollars in Cleveland than to send them any place else. So in purchasing I spend a great deal of time on that.

Then, of course, one of the things we have to do, we have 80 municipalities with whom we do business. I keep many contacts with the governments of the larger of those municipalities. I know the mayor of Cleveland very well, the mayor of Cleveland Heights, the mayor of Shaker Heights, the mayor of Lakewood, and I run into them and talk over the

mutual problems and I don't know that it is a result of that but the fact is that we have practically no trouble and have had no litigation with any of the communities we have

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served until this controversy started in 1938. Now, I think part of our ability to settle that controversy was the acquaintanceship that I had with the government.

In the City of Cleveland there has been controversy with one or another of the utilities for years. It had a fight with the Gas Company for several years and is having a frightful 2288 time with the Street Railway Company, in litigation for years. I think our ability to get this last rate matter settled was influenced in some degree by personal acquaintanceship and contacts I have made with members of the government.

Also, the newspapers. I know the editors of the three newspapers. I have made them close personal friends of mine. I see a lot of them. They talk with me about Cleveland problems and I talk with them about our problems. I think that has been very valuable. Of course, I keep in contact with the Public Utilities Commission. If I am in Columbus I will drop in and speak to the Commissioners and I go 2289 to all the hearings on rate ordinance matters and I represent the Company in applications for authority to issue bonds and I think generally our Company could not be on better terms with the Public Utilities Commission of Ohio. We have gone out of our way always to do everything they ask us to and I think the relationship has been a very fine one.

Q. Do you give attention to employee relations? A. I give a great deal of attention to employee relations because I am very much interested in employees. We have about

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2290 3,700 of them. As I said before, we have never had any trouble in arranging working conditions or wage levels, or anything. We give a great deal of thought and time to wages and working conditions and to my mind having a proper employee morale and a proper attitude on the part of a large body of employees to the Company, is the finest instrumentality there is for maintaining fine public relations.

You see, we have, as I say, about 3,700 employees and they are scattered all over the territory that we serve. They have
2291 friends, relatives and contacts—a lot of contacts,—and I don't see how you could have proper public relations without having proper employee relations, so I like the men who work for our Company and I am sure they like me.

I mix with them a lot. I am beaten by them at golf and ping pong when I used to play ping pong, and there isn't a man in the Company who feels any embarrassment about coming up to see me about anything he wants to see me about. It is known that he has a welcome in my office so I think it may be said that I devote a great deal of time and attention to employee relations.

2292 I figured out that card and ping pong room for them and at least once every winter I go down there and play bridge for an evening or ping pong for part of an evening. I have played in their golf tournaments and been well beaten by some of them, and they are a great crowd of people. I think there is no finer organization anywhere than the people who work for The Cleveland Electric Illuminating Company.

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Q. You have also stated that you have necessarily given attention to the financing problems. A. Yes, I think I have stated that at great length.

Q. What about the collection policies, Mr. Crawford? A. Well, that is a very important matter. We have gone through a major depression and we have had a lot of delinquent accounts both individuals, businesses and municipalities.

Our greatest problem has been the delinquency in street lighting accounts and I have had to devote a lot of time to that and it is still a very important problem. We have brought down our delinquencies very markedly since they reached their peak in 1933 and I think we have a very good 2294
collection record, I mean a record of losses. It runs about .2 of 1 per cent. in a normal year. It got to be over .3 of 1 per cent. in 1932 and 1933, but since conditions have improved we have brought that down to something under .2 of 1 per cent.

Q. Do you participate in matters of major engineering decisions? A. Yes, I do participate very extensively in them. I am not an engineer. I know little or nothing about engineering, but I think I know a good deal about some engineers. I preside at engineering conferences on determining the type, 2295
size and location and capacity of additions, the locations for building new plants, and we have quite some differences of opinion among the engineers in our Company as to the

pressure or temperatures that are to be used in a power plant and I let the boys talk it out and if I can't bring them into accord on it, I take the bull by the horns and decide what it will be, even though I am not an engineer, but it requires a good deal of time.

Q. Do you personally examine operating reports? A. Oh, continually. I have operating reports in minute detail pro-

2296 vided continually and the operating men know that I get these reports and I am watching continually, not only in our own Company but the comparative statistics we get from other companies.

Q. From what other companies? A. From other companies in the—well, on station operation we get monthly comparative statistics from St. Louis, Milwaukee, Detroit and Washington, comparing the economies achieved at the plants, the wages, the cost of the switchboard, and our fel-
2297 lows, of course, know that I get these reports and every once in a while I will mention that I noticed by our last month's report that Ashtabula was not doing quite as well as Lakeside at Milwaukee and they are very valuable and I devote a good deal of attention to them.

Of course, on all major expenditures such as plants and that sort of thing, I discuss with the board. While the board has never put any limitation upon my authority, I am anxious that the board should share the responsibility with me, so that I have frequent discussions with the board on major

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2298 engineering matters and very frequent consultations, of course, with the operating engineering staff.

Q. Do you give attention to banking connections? A. Why, I give about all the attention to banking connections that is given. As I have pointed out, we haven't needed to have a highly trained financial expert on our staff and I have, since I have been with the Company as secretary, kept the banking contacts for the Company.

The treasurer of the Company each day, each morning, hands me a list showing the amount of money in each of the banks in which we deposit. We maintain nearly all of our

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bank deposits in our own territory, both in Cleveland and in the smaller communities we serve, and I determine in all cases how those amounts will be distributed among these different banks, so that I think that it may be said that I take over many of the duties that would ordinarily be handled by the treasurer of a company.

I have been on the National City Bank of Cleveland board since 1933 and on that board are the heads of many of our largest businesses in Cleveland. The weekly meetings which I attend there keep me in constant contact with those buyers 2300
of large power and it has enabled me to get closer to them and for them to get closer to me. I think it has been a very satisfactory relationship and very beneficial to the Company.

Q. You have participated in civic activities? A. Yes, I

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think it may be said that I have participated pretty widely in civic activities. You see, we are the largest industrial unit in Cleveland. We have the biggest investment of any corporation in Cleveland. We pay the most taxes of any corporation in Cleveland, and I think the head of that Company 2301
should take participation in civic activities, and so I have been very glad to do it. I have been active in the Chamber of Commerce. I was chairman of the depositors committee of the closed Union Trust Company for five years and held frequent meetings and conferences on the solution of that problem.

In 1936 I was president of the Great Lakes Exposition and devoted about half of my time to it and all of the time of one of my assistants. It was a good thing for Cleveland. It brought me into contact with a lot of right people in

2302 Cleveland and as I say, while it was hard work, I think I derived some benefits from it and I feel sure that the Company did.

I have been trustee of Cleveland College for a number of years. It does not take very much of my time but Cleveland College is a branch of the Western Reserve University which is downtown in the center of Cleveland and has day and night school for people employed in businesses down town. It has several thousand students and it is a very
2303 worthwhile cause.

I think those participations—as a matter of fact, I have just been persuaded to take over the raising of funds for the annual Community Fund this fall from the utility companies. I am supposed to go out and not only squeeze all

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the companies for what I can, but get the employees to contribute as liberally as possible. That means practically devoting one week of my time to that job, which takes place the last week in November, and it is a terrible burden. I have avoided it up to this year, but I yielded this year, so
2304 I will have that to do this year.

Mr. Browning: I think we have reached a convenient stopping point, Mr. Examiner.

The Examiner: All right. We will recess now until ten o'clock tomorrow morning.

(Whereupon, at 4:20 o'clock p. m., the hearing was adjourned to reconvene at 10:00 o'clock the following morning.)

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2305

BEFORE THE

SECURITIES AND EXCHANGE COMMISSION

File No. 59-10

IN THE MATTER

of

2306

THE NORTH AMERICAN COMPANY, *et al.*

Hearing Room 1101,
Securities and Exchange Commission Building,
Friday, August 16, 1940,
Washington, D. C.

2307

Met, pursuant to recess, at 10 o'clock a. m.

Before:

W. W. SWIFT, *Trial Examiner.*

Appearances:

(As heretofore noted.)

2308

PROCEEDINGS

The Examiner: The hearing will come to order.

Whereupon, EBEN G. CRAWFORD resumed the witness stand and testified further as follows:

Direct Examination by Mr. Browning (Continued):

2309 **Q. Is The North American Company of aid to you in handling your management problems, Mr. Crawford? A. The members of the staff, the executives of North American Company, are of almost inestimable help to me in management problems.**

Q. Will you give us some examples? A. I think I have testified as to the help Mr. Fogarty has been to me in matters of financing through his experience and acquaintance with the subject.

2310 **Mr. Freeman, who is vice president of The North American Company and a member of our executive committee, and is a member of our board, of course, has been a great help in many ways. Mr. Freeman, before joining The North American Company, was a member of the accounting firm of Touche, Niven and Company, and enjoyed a very high repute as an accountant. His knowledge of accountancy has been available to us and has been of great use to us in the operation of the company. His knowledge of the Federal tax laws has been a great help to us in handling tax matters, so great**

that we have never felt any need for retaining any outside tax consultants of any sort.

In preparing our annual reports to stockholders we have really given Mr. Freeman the last going-over of the report as to style, form and contents. We count largely on his help in that respect. In the preparation of official communications in our negotiations with the City of Cleveland, for instance, on rate matters, Mr. Freeman has been of great help to us and has spent days in Cleveland in some cases working on that sort of thing.

Mr. Shea, president of The North American Company; I have known Mr. Shea for about a year but I have been in 2312
constant contact with him and he, particularly, has been of great aid to me because Mr. Shea's experience in business other than the utility business has been largely in selling experience in a highly competitive business. Mr. Shea formerly was in the oil business and he has advanced ideas on sales methods and business promotion.

Of course, as I have testified, that is the phase of our business in which I think I am possibly the most vitally interested, so the contacts that I have had with Mr. Shea have been many, both in New York and Cleveland. They have 2313
added a great deal, I think, to our ability to move our product and will do so more in the future.

I would say that Mr. Shea's ideas on sales promotion, on budget control, on internal auditing put into effect since his

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coming to The North American Company have been of great value and are of great value, and will be of still greater value as time goes on.

I have testified, I think, about Mr. Piske, vice president of The North American Company. At times of getting out

security issues Mr. Piske, since Mr. Fogarty was advanced to the presidency of The North American Company in '34, has been generalissimo in getting out the necessary documents in financing operations.

As you know those things are done at high speed to meet a very exacting time limit and I know of no one—I have seen no one who can carry on such matters with such speed and accuracy and exactness as Mr. Piske has been able to do. His help has been invaluable to us.

2315 That might be said to be true of Mr. Hartel, too, secretary of The North American Company, who, while he has no connection with our company has always pitched in and worked day and night on these matters where speed was important.

Then, Mr. Ed Thierry is an assistant to the president of The North American Company, a writer and an ex-newspaper man. He has been a great help to Mr. Ryan and myself, Mr. Ryan being my assistant in charge of publicity and the preparation and editing of sales matter, mailing sales matter, and also in the preparation of annual reports, put-

2316 ting the finishing touches on and making them readable and interesting, and we have had a great deal of use for Mr. Thierry's time. He comes to Cleveland now and then and

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sits down with Mr. Ryan and me and discusses our publicity and brings to us knowledge of the publicity methods of the other companies in The North American System.

Mr. Robert Sealy, treasurer of The North American Company, has been of help to us on a number of occasions. He has been treasurer of The North American Company all through the period in which The North American Company

has held control of our company and at times when we have financed and been in receipt of large amounts of money which we were not spending immediately Mr. Sealy has, on a number of occasions, assisted in our getting that money invested temporarily, either in short-time paper or in interest-bearing savings accounts with New York banks.

Of course, those days are over for the time being when you can get interest on money but there was a time when you could get very substantial return on funds which were not required to be used for months or possibly a year or 2318 two. So, I think that Mr. Sealy can be said to have been really of great help to us in providing the place to put money out where it would earn a little something.

Mr. F. W. Doolittle was a vice president of The North American Company and an engineer for many years. I think he no longer has that title. I think he gave up his official position in New York two or three years ago on account of his health, but has devoted part of his time and most of his time, I think, to consulting work for The North American Company. He has been in Cleveland on many occasions.

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When The North American took over control of our company in 1922 Mr. Doolittle spent months out there in consultation with Mr. Lindsay, then president of the company, and was largely instrumental, I think, in bringing many of our practices, engineering practices and recording practices, into harmony with those of the other North American companies. He worked with me in the period previous to 1931 when we were attempting to work up this pension plan. Mr. Doolittle worked with me on the details of that plan and sat in with me on our negotiations with the insurance companies

2320 in an effort to get that plan into operation and shared with me the decision placing the plan into the hands of the Prudential Insurance Company.

Q. Could you give us some examples of the aid of The North American Company on specific problems? A. I think possibly the best example I could give is the problem that we ran into in connection with this rate investigation by the city.

Q. This recent—— A. This recent investigation by the
2321 city which started in the fall of 1938. Our rate agreement with the City of Cleveland had been in effect since April of 1933 and would have expired in July of 1939. We had expected to do as we always have in the past, open negotiations with the city administration for the passage of a new rate ordinance for a period into the future.

Our policy had been that several months in advance of such an expiration we have contacted the city and discussed

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the matter of a new ordinance and if we were in a position
2322 to reduce rates to offer rate reductions which we felt we could make, and in order to get the rate agreement extended for a period of years.

In the fall of 1938 we were surprised to learn that a councilman, a member of the City Council, had addressed a communication to the Council stating that the Illuminating Company's property and its earning had never been investigated by the City for 25 years and that we had been able to get rate ordinances without really showing the rate of return that we were earning and the amount of our property, and he suggested that the Council employ an independent

engineering firm to investigate the Illuminating Company before our rate ordinance was extended or renewed.

We opposed that. I opposed it. I talked to the Mayor about it and said I did not think that it was necessary, that it would result in expense to somebody, and on the other hand that we were not at all unwilling to let the City see our books and see our property accounts and our earnings if they wanted to. If they would appoint an engineer we would make our records available to him.

That, of course—and the Council proceeded to vote and 2324
appoint such an engineering firm. I felt that it was necessary, if the City were going to make an analysis of our property and our earnings, that we should employ engineers to do the same thing so that we would not have to rely on an engineering firm employed by the City.

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I wanted the engineering firm to be one of high repute. I wanted it to be one that could be truly called an independent firm. I had had no experience with such firms. I knew a number by name, of course. I immediately went to Mr. 2325
Fogarty and we sat down and talked the matter over and we decided that there was one of three or four firms which could properly be called an independent firm for the purposes for which we wanted them. He made an appointment for me with Mr. Gano Dunn of the J. G. White Company and sat in with me while I concluded arrangements with Mr. Dunn and had his firm make this parallel engineering report.

The firm employed by the City proceeded to—we furnished them office space, gave them access to all our records and gave them any help that they asked us for in getting

2326 the records and they proceeded to make a report based upon the so-called historical cost of our property.

The J. G. White Engineering Company, acting for us, made a report based upon the reproduction cost new, less depreciation value, of our property.

Q. Just a minute, Mr. Crawford. One of the problems in that connection was to determine what part of your property was devoted to the service of Cleveland, itself, wasn't it? A. That is true.

2327 Q. That was the major—in other words, it wasn't merely a question of finding out the historical cost of all your properties, but of determining what part of your property was

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allocable to Cleveland. A. That is true. The two engineering firms were surprisingly close together on the proportion of the property used and useful to the customers of the City of Cleveland, but they approached it from entirely different angles, one based on the historical cost and the other based on reproduction cost new. Our counsel in Ohio advised without reservation that under the laws of Ohio the reproduc-

2328 tion cost new basis was the correct one.

We found that there was a wide difference between the values and the returns arrived at by the two reports and the two reports were finished at about the same time. We decided that it was for us as a company to call the Council's attention to the difference between the two reports and to explain these differences. There was a very wide difference in the valuation arrived at, about $29,000,000 in the net value of the property used and useful for Cleveland, and the engineering firm employed by the City recommended that rate structures be fixed by the City which would result in lower-

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ing our rates in the City of Cleveland by something over $2,000,000 which, if extended to our entire territory——

Mr. Binford: That is for a year?

The Witness: $2,000,000 a year, $2,099,000 in the City of Cleveland—which, if extended to the whole territory, as it would have been under our universal system of rates, would have amounted to something

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like $3,500,000 a year.

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We, of course, could not agree to that but in the preparation of this reply statement which accompanied our engineering report, we sat down to write that reply statement and we in Cleveland were very indignant and our pens were pretty hot when we started to write this report. We worked for at least ten days on it and I asked Mr. Freeman and Mr. Fogarty to come out to Cleveland and give us possibly a clearer look at the problem than we could have ourselves, having been in the middle of it for months, and I think I can say that our reply statement was a

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masterpiece of moderation and understatement due to the work that Mr. Freeman and Mr. Fogarty put on it.

We had a deadline to meet and we all sat up editing and re-editing and marking copy until three or four o'clock in the morning the day before it had to go in to the Council.

That is, I think, the most recent and possibly one of the most graphic examples of the help those two men have been to us. I feel sure that I could not,

2332 *Colloquy*

nor could anyone of my staff, have gotten that reply statement into the beautiful form in which it was finally finished without the assistance of those two men.

Then the Council, after many hearings, reduced their demands and actually passed an ordinance which would have resulted in our reducing our rates by $1,385,000 per year in Cleveland, instead of $2,099,000. We appealed to the Public Utilities Com-
2333 mission of Ohio and under their instructions prepared to take an inventory and appraisal of our property

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precedent to having hearings on the matter.

Then again we had had no experience in making such an inventory and appraisal since 1914 and the property at that time was a small fraction of what it was in 1939. There again I asked the help of Mr. Fogarty, went to New York and told him my problem of this inventory appraisal, and that we wanted him to employ the best engineering firm that we could get
2334 to do the thing in the best manner and in the shortest time possible.

After discussions and conferences down there Mr. Fogarty put me in touch with Stone & Webster Engineering Corporation. I talked to the president of that corporation, Mr. Muhlfeld, and made an arrangement whereby they would supervise the taking of this inventory and the appraisal and the study of depreciation so that we could have a case to go before the Commissions. They were also to act as expert witnesses in our behalf in those hearings.

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We went ahead full speed. I put Mr. Lindseth in charge of the work on behalf of our Company under the supervision of Stone & Webster Engineering Corporation, and we worked on that from September of 1939 to the latter part of March in 1940. We rented outside space in another building adjacent to ours. We borrowed some of our own people for supervisory help from our operating staff, and employed a lot of engineers and accountants and clerks. As a matter of fact, we had over 200 people working in that other 2336

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building on this inventory and appraisal. It was a tremendous job.

We did it under the supervision of the engineers from the Public Utilities Commission of Ohio and I think we were doing a splendid job of inventory, at least so those engineers stated from time to time, that they had never seen an inventory better handled, and they asked us for samples of it to be kept by them in their files as guides for future inventories within the state. 2337

In the latter part of March a member of the Council stated at the Council meeting that this rate case was going to cost the Company a lot of money, was going to cost the City a lot of money, and if the Company won the case, as it seemed to him that they might well do, the Company cost would be handed over to the rate payers to pay back over the period of the ordinance, and suggested that the Company be approached to see whether they would not make a compromise offer which the City could accept.

2338 *Colloquy*

The Council appointed a small sub-committee to act with the mayor and the director of law in the city to consult with our Company to that end.

We had no idea that the offer was coming and we had then the problem of determining what offer we could make and how far we could go in order to settle their litigation which would be expensive and protracted and with no knowledge of the outcome of it. There again we went to New York and spent a week
2339 down there going over with our executive committee,

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Mr. Freeman and Mr. Fogarty, and by that time Mr. Shea who had come into The North American organization and Mr. Neal there, the rate expert in The North American organization, with our own rate engineers, and we arrived at an offer of about half what the ordinance provided, that we would make rate reductions largely in the residential schedules which would amount to about $840,000 per year in Cleveland and about $1,400,000 in our system.

2340 We drafted formal communications to the City making that offer and in the draft of that communication Mr. Freeman was of great help. The offer was, after much debate and hearings and discussions, accepted and the rate litigation was ended and the inventory work was brought to a close.

All through that period of that rate case we were in constant touch with The North American staff. They advised us all along the line and certainly they were of great influence and help to getting this compromise offer accepted.

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It is much to the advantage of the Company that it was accepted and I think much to the advantage of the community. By that means we received a rate agreement which runs four years from July 7, 1940 that would establish our maximum rates for the period of the next four years. Those men were invaluable to us during that period.

Q. I believe that Mr. Lindseth testified at some length as to contacts of The Cleveland Company with other North 2342
American subsidiaries and that you have mentioned several
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of these matters. As president of The Cleveland Company, do you consider that these contacts with the other North American subsidiaries are of benefit to The Cleveland Company? A. I consider them to be a very great benefit. The conferences that we have had in New York among the executive heads of the companies have offered us an opportunity to discuss common problems. In the handling of those problems the methods of the companies are, of course, somewhat different. Our sales methods are entirely different from those 2343
of Milwaukee and St. Louis, for instance, and quite different from those in Washington.

We have, of course, through the years built up a sales policy of one kind and these other companies have built up their sales policies and in some cases they are widely at variance. It gives us an opportunity to discuss whether something that is of value in Milwaukee in sales promotion could be used in Cleveland or whether something that has been proved beneficial in Cleveland might be equally beneficial in St. Louis.

2344 For instance, St. Louis and Washington were away ahead of us in refrigeration, first, and in air conditioning, second. That was probably largely due to the climatic conditions in those cities as compared with ours. It is hot in Washington in the summer and it is equally hot in St. Louis in the summer, whereas our summers are pretty bearable, so they got a great lead due to those climatic conditions in selling refrigeration and in selling air conditioning, and in these con-

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2345 ferences with New York we were able to get from them what they did and what they did not do and it has been a great help to us.

I consider those executive conferences very beneficial. The Station Advisory Operating Committee, as Mr. Lindseth has testified to, from an executive point of view is a very great help to me. For instance, in the building of this new plant which we are putting up at East 70th Street. That plant is being constructed on the mat which supported an earlier plant which was demolished in 1931. We had to make tests of the capacity of those foundations of the earlier

2346 plant to hold the heavier weights which were required for these larger units, both electric generators and boilers, and we were faced with a number of problems.

We made exhaustive tests of the bearing capacity of that concrete mat which is the basis of the foundation. We went to the most expert persons we could learn of and in that connection there was a professor at the University of Michigan. He gave us a report that the foundations were amply strong, but in an effort to make sure of that fact we wanted to make our buildings as light as possible and still be as strong as possible so the question of the weight of the stacks

that would be in this plant; there would be two stacks to exhaust the boilers and the furnaces had we built brick and reinforced concrete stacks such as the other stacks on our plants they would have weighed about 650 tons apiece and

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we wanted, if we could, to get a lighter stack if it could be done with safety and the Station Advisory Operating Committee, our representative on that committee took it up with the committee, and we learned that in Detroit they had had success with a steel stack lined with brick, a welded 2348
steel stack, which instead of weighing 650 tons would weigh about 450 tons. The problem was whether or not that stack would be satisfactory for us because we burn a different type of fuel than Detroit does, with a higher sulphuric content, and this Station Advisory Committee discussed it and recommended that a steel stack be used, but that a special acid-resisting tile or brick be found for the lining. We adopted that recommendation and it was so specified that these stacks would be of that character and design. That is just merely one instance of the value of the Station Advisory Operating Committee. 2349

I know less about the value of the Electrical Committee because I am not an electrical engineer and their meetings are highly technical, but I do know that our engineering staff feels that they have been benefited greatly by these semi-annual meetings of the Electrical Committee.

We have Purchasing Agents' Conferences at which the purchasing agents of the various companies meet and get together for a day or two and they discuss their problems in the matter of commodity prices and trends. I think those are of value.

2350 *Eben S. Crawford—By Respondents—Direct*

The accounting officers, auditors of the Company, have a

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meeting at which they discuss their problems of internal audits and budgets and controls and forms, work orders, etc. I haven't attended those meetings but I get a report from our comptroller on his attendance at the meeting and I know that he feels that those meetings are of value to us.

I think these inter-company contacts are very valuable, have been of value to us and I think they have been of value
2351 to the other companies. For instance, we have had in Cleveland since 1911 a municipal light plant in competition with us. A few years ago there was a movement in Milwaukee to establish a municipal light plant there and Mr. Way asked me if he could send a representative of his company down to discuss with our people the municipal competition, and he sent Mr. Schmidtman.

Mr. Schmidtman, I think, was in Cleveland for two or three weeks consulting with our service department and our sales department and our publicity department, on the matter of municipal competition. I feel certain that he
2352 would not have stayed that long if he had not been getting information that he considered to be of value to him.

Of course, people in Milwaukee decided that they did not want a municipal light company and voted it down, but I have no doubt that that visit of Mr. Schmidtman's would have been helpful to the Milwaukee Company had Milwaukee taken a different course.

Q. Mr. Crawford, you feel that you have a fine Company in Cleveland? A. I think we have the finest Company in the

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United States.

Q. Notwithstanding that fact, do you feel that you have anything to learn from these other companies? A. Oh, a great deal. I think one of the things that an executive must beware of is satisfaction with the results he achieves. Once a company, an organization, or an executive gets the feeling that he is handling the job perfectly he is perfectly certain that that will result in slipping and most unsatisfactory results, and so we feel that while our Company has made an outstanding record in every respect—I don't for a minute think that we take care of every detail of our business better 2354 than anyone else does. As a matter of fact I know that some of these companies in The North American System do certain things better than we do.

For instance, a year or two ago I noticed that the Milwaukee Company was awarded the C. A. Coffin medal by the Edison Electric Institute. That awarded to them on two bases: fine operation of their power plant at Port Washington, and their outstanding record in reducing the cost of billing and collecting domestic consumer accounts.

This billing and collecting cost was very much lower than we have ever been able to do it and I did not waste any 2355 time in sending two competent men to Milwaukee and finding out how they did it. Those men spent several days there and came back and told us how they did it.

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Well, part of it was due to their having a new and excellently designed building where they could take care of customer contacts, application for service, payment of bills, adjustment of complaints. It had been studied out to the finest detail in eliminating time and space. They had done

2356 a magnificent job. We could not do that because we have an old office building which was built in 1912 as a general office building. It was not designed particularly for our purposes as they are now, so that we could not adopt all the things that were done by Milwaukee in this regard but we did succeed in making corrections in our operation which will effect rather substantial savings in the cost per bill.

That will result not only in savings to us in billing consumers, but in reducing the inconvenience to customers in
2357 shortening the time that they are required to be in our office on those matters.

I feel sure that each of these companies has learned a great deal from the other. Station Operating Engineers, Design Engineers, Electrical Engineers, Accountants and Purchasing Agents have meant a lot in the past and I think they will mean a lot in the future, and I think any disassociation of these companies with the result that these committee meetings would be closed out or discontinued would prove expensive to each of the companies.

It might be thought, I suppose, that if the companies
2358 were disassociated that these contacts and committee meetings would continue and they probably would for a period of

time, but it is my judgment that they would not continue indefinitely. There is a lot of work connected with them. If there weren't some influence brought to bear on members' companies to go I feel certain that from time to time one company might drop out or another one, and in due time there would be no such committees and no such contacts.

As a matter of fact, I know of no other group, or no disassociated companies which have these inter-company

committees and I think the thing that has held them together through the years and will hold them together, is a common mutuality of interest and a common selfish stock interest, selfish in the sense that it means saving money for the companies. I am convinced that they ought to be continued and I think the only way to insure their continuation is to continue a common association and a common ownership.

I would say that the most important benefits of our association with these other companies in The North American group has been this fine help that we have gotten from the 2360
executives of The North American Company at all times on financing and other problems, and the fine results that have been achieved by these committees.

For instance, the Station Operating Committee. I get monthly—I think I have it here with me—inter-company statistics which show the plant operation records of the Ashtabula, Avon and Lake Shore plants of our Company,

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the Lakeside and Port Washington plants of the Milwaukee Company, the Cahokia plant in St. Louis, the Connors' Creek and the Trenton Channel plants of the Detroit Edison 2361
Company, and the Buzzards' Point plant of the Washington Company. Each month I get one of these sheets and our engineers, of course, know that I get it and study it and they vary from month to month, showing that Cleveland at one time has improved their operating efficiencies as compared to some of the other companies, and some other months some of the other companies have the jump on them. This is like publishing the standing of teams in the American League and it has been of tremendous value to us.

2362 *Eben G. Crawford—By Respondents—Direct*

Q. Is there a rivalry between the companies, Mr. Crawford? A. There is a very intense friendly rivalry between the companies. It is a rather amusing thing because it means that about four people out of five are bound to be wrong. I am perfectly convinced that we are doing the best job of any company in The North American System, and I insist that we continue to do what I think is the best job of any company in The North American System, but I am sure Mr. Way or Mr. Neal are just as satisfied that Milwaukee
2363 and Washington are far ahead of us in their performances. I think that rivalry not only among the executives but among the operating forces is a great inducement to continue effort towards improving the service and improving the results of the service.

—1,156—

Q. Mr. Crawford, do I understand correctly that you feel that the common stock ownership which links these companies together is essential to this rivalry and to this continued close contact? A. Well, I feel very strongly that that is the case. Due to this common ownership and this
2364 mutuality of interest we exchange information with these companies that we would not think of exchanging generally.

Q. Who, in your company, passes on interchange of information with other companies? A. Well, all requests for such interchange of information go to Mr. Hough, our vice president and general manager, and if there is any question at all as to whether or not the information should be given the matter comes to me and I make a decision as to whether or not it shall. No information is passed out of our company without my knowledge and approval of it.

Q. That is, you have established the general policy and also pass on specific cases? A. Yes, that is a Company order.

Q. So that The Cleveland Company is not exchanging information with other companies except as you, yourself, permit or direct it? A. I would say that this is true except with possibly unimportant matters. If a company were to write us and say "Do you do your own tree-trimming or do you have it done by contract?" that would not be referred to me,

but on matters of information as to our operations or our costs or any of that sort of thing would have to come to me for my approval.

Q. Now, as president of the Company, do you permit the intimate exchange of detailed information with non-associated companies?

The Witness: Will you read that question?

(Pending question read back.)

Mr. Binford: I object to the question until the word "non-associated" is clarified. Do you mean companies which are not part of The North American System? 2367

Mr. Browning: Right.

Mr. Binford: If you make the question that way I will withdraw the objection. Is the question so changed?

The Witness: Will you read that again now?

Mr. Browning: Let me rephrase the question.

As president of the Company, have you permitted the intimate exchange of detailed information with

2368 *Eben G. Crawford—By Respondents—Direct*

companies which are not subsidiaries of The North American Company, other than Detroit Edison?

The Witness: No, I have not.

By Mr. Browning:

Q. And would you permit such exchange of intimate information with any such other companies? A. Well, I would have to weigh that matter in each specific instance

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2369 before I would consent to give it. I can't say that I would not give another company information that they asked for, but as a matter of practice we don't do it and unless it was on some specific matter where we could not see that it would have any effect on our operations, I would refuse such requests for information.

Q. Mr. Crawford, will you tell us what has been the effect of North American control of your Company upon localized management of your Company? A. I think the control of our Company by North American Company has had no effect whatever upon the local nature of our management in Cleve-

2370 land or of our organization. Our staff is composed of people long resident in Cleveland, most of whom have spent their life in service of the Company.

The public realizes and feels that in dealing with us it is dealing with a Cleveland organization. I don't see how any organization could be more local in its character than is the whole employee body of The Cleveland Electric Illuminating Company.

As president of the Company I have complete control over the operations of the Company, subject to the general super-

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vision of the board. There have been no limitations placed upon my authority. I have full authority to deal with any problem that may come up. My judgment and my decisions have never been overruled by a board. I have never been asked to take any action of which I did not fully approve.

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On the other hand, all the time that I have been president of the Company I have been in close contact with the executives of The North American Company. We have constantly discussed the problems of the Company and these discussions have not been just perfunctory. They have run for hours and sometimes for days.

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Sometimes I have gone down there to get their opinion merely to confirm my own judgment in the matter and to share the responsibility with me of having made this decision. Many times I think I have gone down there with my mind made up on a specific problem and after conference with Mr. Freeman and Mr. Fogarty and Mr. Shea, I have probably changed my mind or modified my decision in the matter.

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I don't know that in any one instance such as, for instance, the determination of this compromise offer in this rate settlement with Cleveland, I could not say that I or any other one participant in that was the originator of the settlement finally arrived at. Those men are of great value to me because—well, they are not into the detail, they can see the forest without being obstructed by trees, as it were. They are men who not only know our problems, but in many cases have met the same problems in their other companies and they are experienced in those other subsidiaries in large cities and have certainly been of great help to us.

2374 Then, they have a very strong interest, I think, in arriving at the proper solution, helping me to arrive at the proper

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solution of our Cleveland problems in the size of the investment that they have, the stake that they have in the property. That is a very important thing.

I have often found that the thing that seems to me to be a rather weighty problem has already been met in other companies and the proper answer been found. I think prob-

2375 ably in the seven years that I have been head of The Cleveland Company I have averaged fifteen visits a year, at least that many, in the office of The North American Company, and many times Mr. Fogarty and Mr. Freeman, particularly, and Mr. Piske occasionally, have been out to see me.

I am sure that not a week goes by that I am not in contact with Mr. Fogarty or Mr. Freeman or Mr. Shea, or all of them, by telephone. I keep in constant touch with them. Their help has been invaluable. I don't know how you would value it in money but it has given me a very substantial backing in important decisions.

2376 It would certainly be greatly missed if that help were taken away. Of course, if our stock was divided up among a lot of people, I don't think there would be anyone who would have a sufficiently great stake in the Company to devote the time and effort.

For instance, I think my selection to be president of this Company, which was certainly made by The North American Company, probably would not have been made—I mean that

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I probably would not have been selected to be president of this Company on the occasion of Mr. Lindsay's death if there

had not been someone who, by contact with me and knowledge of my capabilities, could make that decision. I had been secretary of the Company for many years and as a rule presidents of large corporations are not succeeded by secretaries of that organization. It resulted through Mr. Lindsay's long illness and the many contacts that I had with The North American Company that they, having, of course, the controlling stock ownership, could nominate me as president. They did and I have been very happy in it. The job has been made easier by these fine associations and the help I 2378
have gotten from these men. I don't like to think of the possibility of that help being withdrawn and I hope it won't be.

Q. Would an independent engineering or management firm take the place which North American has with you? A. I don't know what you mean, Mr. Browning. Do you mean could the Cleveland Electric Illuminating Company employ a management concern that would be a fit substitute for the help we have gotten from The North American Company?

Q. Yes. A. I don't think it would be possible. 2379

Q. Why not? A. Well, because of the long acquaintance that these men have had with our operating problems. I don't think we could retain elsewhere in any one place the

all around help from many points of view that have been given to us by the staff of The North American Company.

Q. Well, do you feel that the element of common stock ownership has any importance? A. I think that it is the important element. The North American Company has a tremendous investment in Cleveland. It is these men's job

2380 *Eben G. Crawford—By Respondents—Direct*

to help the local management operate these companies. I think it is the strongest possible factor.

Mr. Browning: That is all.

Mr. Binford: Mr. Examiner, I wonder if we could recess until 1:30 o'clock, at which time I would be prepared to go on with cross examination. It is now after eleven.

The Examiner: I think that is in order. We will recess until 1:30 o'clock.

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(Whereupon, at 11:10 o'clock the hearing recessed, to reconvene at 1:30 o'clock p. m.)

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AFTERNOON SESSION.

(Whereupon, at 1:30 p. m., August 16, 1940, the hearing was resumed.)

The Examiner: Let us resume, gentlemen.

Whereupon, EBEN G. CRAWFORD, the witness on the stand at the time of recess, resumed the stand and testified further as follows:

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Cross Examination by Mr. Binford:

Q. I believe you testified, Mr. Crawford, that the advice and assistance of Mr. Fogarty, among others, of The North American Company, was of great value to you in your recent financing, is that true? A. That is very true.

Q. Mr. Fogarty not only advised you in connection with the most recent bond financing of your company, but also negotiated—and I believe you said fought or struggled—with the underwriters, in connection with the final completion of the deal, is that true? A. Will you say that again, please? 2385

Mr. Binford: Please read that.

The Witness: Ask that again, please.

(Whereupon the pending question was read back by the reporter.)

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The Witness: Mr. Fogarty began the negotiations with the bankers on our behalf and, in the final negotiations with the bankers, with respect to the price at which the bonds would be sold, he sat with me in

2386 those negotiations and shared with me the burden of getting the best possible price for the bonds, which I think we succeeded in doing.

By Mr. Binford:

Q. You testified, on direct examination:

"Mr. Fogarty handled all necessary negotiations with the bankers, except getting down to the final
2387. trading for a half point, when I stepped in and reinforced him somewhat."

That is a correct statement of the situation? A. Substantially correct, yes.

Q. Yes. It may be modified by the remainder of your testimony on that subject, on direct examination. A. Yes.

Q. You also testified that no members of your staff were particularly familiar with provisions common to mortgage indentures securing bond issues—that is true, is it? A. No members of our staff are familiar with such things.

2388 Q. And that you received assistance in connection with the mortgage indenture executed to secure the bonds most recently issued by you from the officials of The North American Company? A. The officials of The North American

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Company were very actively of assistance in arriving at the provisions of the mortgage.

Q. Who drafted the mortgage indenture? A. The mortgage was, I presume, drafted by our counsel with the assistance of the staff of The North American Company as to detail.

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Q. What individuals of your counsel? A. I would say that Mr. Cissel of Sullivan and Cromwell, Mr. Bickel of Squire, Sanders and Dempsey, principally.

Q. Squire, Sanders and Dempsey are a firm of attorneys practicing in Cleveland? A. That is true.

Q. Where was the indenture drafted—in New York? A. In New York.

Q. Do you know if a member of the Cleveland firm was in New York continuously during the drafting of that indenture? A. Mr. Bickel was there continuously. I say "continuously"—practically continuously; I don't know but that he may have been back in Cleveland for a day during that period, but he worked continuously on that indenture with Mr. Cissel.

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Q. Mr. Fogarty made or carried on all the preliminary negotiations with the underwriters, up to the time when agreement in final form became necessary as to price and spread? A. Mr. Fogarty carried on all the negotiations up

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to that point, with this exception, that at a meeting—at an underwriters' meeting, held in the offices of The North American Company, I attended that meeting, which was presided over by our counsel, and answered such questions as underwriters' representatives cared to ask about the Company and the property and the operations of the Company.

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Now, that is the only time that I appeared in what might be called the negotiations, until the final conference at which the price was fixed.

Q. What was the date of the conference, which you mentioned as being presided over by your counsel? A. It was

on Tuesday before the offering. The offering was on Friday, I think, July 19.

Mr. Browning: That is right.

A. (Continuing) And this conference, I think, was held on the Tuesday before that.

By Mr. Binford:

2393 Q. Prior to that time did any official of your company, by which I mean The Cleveland Electric Illuminating Company, who was not also an official of The North American Company, represent the Cleveland Company in any negotiations with underwriters? A. Did not.

Q. You say that your counsel presided over the particular meeting that you mentioned. Which of your counsel?

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A. Mr. Cissel of Sullivan and Cromwell, and Mr. Bickel of Squire, Sanders and Dempsey was present.

Q. Where was that meeting held? A. That was held on the 16th floor of a building on 60 Broadway in that city.

2394 Q. That is the building owned by a subsidiary of The North American Company? A. That is right; in which the offices of The North American Company are located.

Q. Does your company maintain an office or office space at that address? A. Yes, we do.

Q. Of what does your office force there consist? A. We share rent for a certain amount of space on the 18th floor of The North American building, with two other of the associated companies, and we share in the salaries of a group of employees located on that floor. That group of employees

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consists of Mr. C. E. Neil, who is a rate engineer, Mr. W. C. Leinig, who is a statistician, and—I am not sure of Mr. Johansen's initials——

Mr. Hamilton: (Interposing) J. G.

A. (Continuing) ——J. G. Johansen, who is assistant secretary of our company, and various clerks and stenographers.

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By Mr. Binford:

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Q. This office is maintained continuously by your company? A. It has been maintained continuously for a number of years.

Q. How many years? A. I think since 1935.

Q. At what expense during the year 1939, as nearly as you can state it? A. I would say, as nearly as I can state it, about 20 thousand dollars.

Q. To whom do you pay that 20 thousand dollars—to The North American Company? A. We are billed for our proportion of the salaries of these employees, and we send the check to Mr. Johansen, who is an assistant secretary of 2397 our company.

Q. Of your company? A. Yes.

Q. Who bills you? A. I think Mr. Johansen—just on a statement, I mean, of our share. I don't know how the bill is made out.

Q. He doesn't bill you on any particular letterhead in any particular capacity? A. I can't say as to that.

Q. Do you know who makes the allocation of 20 thousand dollars—or whatever it may be—to you each year? A.

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2398 It is done at cost and it is proportioned, and I don't know the exact proportion. I think it closely approximates a third to each of the three companies—The Union Electric of St. Louis, the Milwaukee Company, and ourselves.

Q. You mean The Union Electric Company of Missouri? A. Of Missouri, yes.

Q. You don't know who figures those costs, then? A. Well, I assume that Mr. Johansen figures them.

Q. You assume that? A. Yes.

2399 Q. As an officer of your company, isn't Mr. Johansen directly under your control and supervision? A. He is under my control and supervision in his duties as an officer of the company, of course.

Q. But you are not sure as to whether or not he figures the costs personally on this matter? A. I can't be sure of that.

Q. This office space is rented from The North American Company or from 60 Broadway Building Corporation? A. It is leased from the Building Corporation.

Q. Which is a subsidiary of The North American Com-
2400 pany? A. As far as I know, it is.

Q. The 20 thousand dollar figure which you mentioned as the approximate cost of the New York organization to you

during the year 1939—would that include the rent? A. That includes the rent, yes, sir.

Q. That is, your portion of the rent? A. Our portion of the rent, yes, sir.

Q. Do you fix the salaries of the employees in that office? By "you", I mean you personally as president. A. Oh, no. I do not.

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Q. Do you know what they are? A. I don't know exactly what they are. I know about the range of them.

Q. Did you employ any of the members of the staff of that New York office yourself? A. No, I did not.

Q. Was the employment of any of them made by your Board of Directors? A. The election of Mr. Johansen as assistant secretary of the Company was made by the Board.

Q. How long has Mr. Johansen occupied that position? A. Well, I couldn't say. For several years.

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Q. Has he occupied it since prior to the time that you became associated with The Cleveland Electric Illuminating Company? A. Beg pardon?

Q. Has he occupied it since prior to the time that you became connected with the Cleveland Company? A. Oh, no.

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Only in the last few years. He is a young man.

Q. Who occupied the position held by Mr. Johansen immediately prior to the time when he was elected to that position? A. I think, before this arrangement was made, that Mr. Sealy was—the treasurer of The North American Company was an assistant treasurer of our company. I don't think we had an assistant secretary.

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Mr. Browning: Let me interrupt there.

The Witness: I am relying on my memory. I haven't any record books here.

Mr. Browning: Don't you think Mr. Piske was the assistant secretary?

The Witness: Well, I don't know. I don't remember.

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By Mr. Binford:

Q. But there was someone who occupied that position? A. That is right. We had an assistant secretary or treasurer in New York.

Q. What did Mr. Johansen do? That is, what was his occupation prior to the time when he—— A. (Interposing) —He was employed by The North American Company.

Q. In what capacity? A. I don't know that he had any official capacity at that time. He was employed under Mr.

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Piske.

Q. Where does Mr. Johansen live? A. He lives in New York, as far as I know.

Q. He doesn't live in Cleveland? A. No.

Q. Has he ever lived in Cleveland? A. No, sir, as far as I know.

Q. What are his duties in so far as your Company is concerned? A. Well, his duties are—he has authority to sign as an assistant officer for us. He did so sign in the

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recent bond issue. He and the rest of that department furnish us with statistical information with respect to the other companies of the North American group. They furnish the stock exchange with the required information. They get out confidential reports to insurance companies, to state banking departments, they answer inquiries of investors, investment bankers, and do quite a substantial amount of work.

Q. I will ask you to refer to Respondents Exhibit Number 30—— A. (Interposing) May I have a copy of it.

(Mr. Hamilton hands a document to the witness.)

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Q. (Continuing) ——which is the organization chart of The Cleveland Electric Illuminating Company. Is Mr. Johansen's position or staff reflected in this chart? A. I

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think not. It is our operating chart in Cleveland.

Q. Are there any other paid officers or departments of your Company that are not reflected in the chart? A. No, there are no other such officers or employes that are not reflected in this chart.

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Q. Could you state what Mr. Johansen's salary from your company is? A. I can't state with any degree of positiveness. It is very small—his salary from our company.

Q. I presume that, if any expenditures are made on behalf of The Cleveland Electric Illuminating Company by your New York staff, your company is billed for those expenditures? A. Undoubtedly.

Q. I am speaking of disbursements or expenses incurred in addition to your pro rata part of the normal running expense. A. As I understand it they have a petty cash account down there, which they account for to our treasury department periodically, and are reimbursed for expenditures out

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of that petty cash fund.

Q. Would you classify Mr. Johansen as an expert in financial matters? A. I wouldn't know as to whether Mr. Johansen was expert in financial matters, with respect to negotiation of loans or financing of that sort. I think he is

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very expert in the details of arranging of closings and financial operations.

Q. You don't know what his total compensation is from The North American Company and the various subsidiary

companies which he serves? A. I don't think he is an employee of The North American Company.

Q. When you stated a while ago that, prior to the meeting which you mentioned as being presided over by your counsel, with the underwriters, in the latest financing of The Cleveland Electric Illuminating Company, you had had no previous contact with the underwriters, did you include correspondence and telegraphic or telephonic communications, as well as personal conversation? A. I had had
2411 no contacts with him whatever, of any character.

Q. Who selected the underwriters, then, or do you know? A. Well, Dillon-Read selected participants in the syndicate —Dillon-Read were selected by us and they formed their own syndicate.

Q. When you say "by us"—— A. (Interposing) By Mr. Fogarty and myself.

Q. (Continuing) ——what persons do you mean? A. By Mr. Fogarty and myself.

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Q. But you didn't contact Dillon-Read yourself, person-
2412 ally. A. Not in the early stages, no. I knew that Mr. Fogarty was in contact with Dillon-Read.

Q. And Mr. Fogarty selected your New York counsel? A. Mr. Fogarty—pardon me?

Q. Selected your New York counsel in that case, too? A. Sullivan and Cromwell have been our New York counsel for many years.

Q. Over what period of years? A. They have participated in our financing for as many years as I have been with the Company, representing us in New York in the

financing. They have been on a retainer from us for a number of years—I wouldn't like to say how many, but for a good many years.

Q. Would you say that they had been so retained since The North American Company acquired control of The Cleveland Electric Illuminating Company? A. You mean by that, during all the period——

Q. (Interposing) Yes A. No, I think it hasn't gone back as far as that.

Q. Did The Cleveland Electric Illuminating Company 2414
have New York counsel prior to the time when The North American Company acquired control of The Cleveland Company, do you know? A. I do not know. I know that we had

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no permanent counsel.

Q. Were you consulted? In this case, by "you", I mean you personally. Were you consulted as to the houses which should be included among the underwriters selected by Dillon-Read for your last financing? A. Yes, I was.

Q. To what extent? Merely to the extent of those in Cleveland who should participate? A. That is true. Merely 2415
as to those who were in Cleveland and in Ohio.

Q. Approximately what figure in dollars was the amount of the underwriting spread on this latest Cleveland financing? A. It was two points on 50 million dollars. That would be one million dollars.

Q. Dillon, Read & Company was the manager of the underwriters in that transaction? A. They were underwriters.

Q. How much was the management fee? A. I do not know.

2416 *Eben G. Crawford—By Respondents—Cross*

Q. If that figure is revealed in the registration statement and amendments, as filed with this Commission in connection with that issue, the figure so revealed would be correct, would it not? A. I would assume so.

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Q. In other words, you checked or caused to be checked the registration statement filed here, before it was filed? A. Oh, yes.

Q. What counsel fees were paid in connection with that?

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Mr. Browning: I don't like to object, Mr. Examiner, but I don't quite see the relevancy of this line of questioning.

Mr. Binford: Mr. Examiner, there has been a great deal of direct testimony here, to which I didn't object, for the purpose of showing the local control and the desire upon the part of the management to put money into circulation in Cleveland by local purchases. I believe that the other side of the picture should be brought out, too.

2418 The Examiner: I believe that refers to the question on direct examination. I will overrule the objection, if it was an objection.

Mr. Browning: I don't object, particularly, to the question, because it is a matter of public record. I just thought we were getting a little far afield.

The Witness: Is there a question not answered?

Mr. Binford: Yes.

The Witness: What was it?

Mr. Binford: Read it, please.

(Whereupon the pending question was read back by the reporter.)

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The Witness: The total of the counsel fees, as I remember it, was 40 thousand dollars.

By Mr. Binford:

Q. Do you know what proportion of that went to Cleveland counsel? A. I do.

Q. How much? A. 16 thousand dollars. 2420

Q. There was a great deal of printing and engraving done in connection with that financing, was there not? A. A very great deal.

Q. Approximately how much did those expenditures amount to? A. It would only be a guess, if I answered that. I don't know.

Q. You don't know approximately? A. I do not know approximately. It would be a guess. I have an opinion, but I don't know.

Q. Would you say it was in the neighborhood of five, ten or twelve thousand dollars? A. My impression is around 2421 nine thousand dollars, but I am not sure of that.

Q. Who made the arrangements for that printing and engraving to be done—what individual? A. What individual?

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Q. Yes. A. I think Mr. Hartel, the secretary of The North American Company, probably made those arrangements.

Q. Mr. Hartel lives in or near New York, is that true? A. Yes.

Q. His office is at 60 Broadway? A. His office is there.

Q. New York City? A. New York City.

Q. Did Cleveland or Ohio firms do the printing and engraving? A. No. The American Bank Note Company printed the—— The temporary bonds, you mean?

Q. Whatever printing or engraving that had to be done. A. Well, the American Bank Note Company printed the temporary bonds, and a New York printing firm did all the other printing. I have forgotten the name of that firm. No Cleve-
2423 land firm would have been equipped to do that printing in the time that was available for doing it.

Q. The familiarity of the officials of The North American Company with such matters, and with firms which were in a position to do that type of work, was of value to you in that connection, too, wasn't it. A. It was of great value to

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us. This was a very high speed operation from start to finish.

Q. You have already dwelt upon Mr. Fogarty's knowledge of technique and practices of financing operations, and
2424 their value to your company. I suppose you also benefiitted, you feel, from Mr. Fogarty's personal acquaintance and knowledge of investment banking firms and their reliability. A. Yes, that is true.

Q. I believe you stated that the members of the Executive Committee of The Cleveland Electric Illuminating Company exercised powers of the Board between the meetings of the Board of Directors, is that true? A. Yes, that is true.

Q. And you further testified that this Executive Committee was composed of yourself, Mr. Fogarty and Mr. Freeman? A. That is correct.

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Q. How often does the Executive Committee customarily meet? A. Well, it meets formally only when some formal action of the Committee is to be taken. It meets informally very many times in a year. We might, in some years have the minutes of three formal actions by that committee, and another year it might be two, another year it might be four, but we are in constant communication with each other, and I spend a great deal of time with Mr. Fogarty and Mr. Freeman in New York on matters of which no record is made of

—1,181— 2426

the minutes.

Q. In other words, if quick action is required on some important matter, you may call Mr. Fogarty and Mr. Freeman by phone and get their opinions and act on the consensus of opinion of the three of you, as on the authority of the Executive Committee as such, is that true? A. On any emergency of any kind, of any importance, important matter, I would endeavor to have a meeting by going to New York or inducing Mr. Fogarty or Mr. Freeman to come out to Cleveland, and we would make a minute of formal action to be approved later by the Board. 2427

On just general routine matters of operation and management, if I know that I am going to be in New York within a few days, why, I may defer acting on it until after I have been to New York and had a talk with Mr. Fogarty and Mr. Freeman.

I can see where at times I may have called one or both of them on the phone and asked them to talk it over among themselves and call me back and, when we were agreed upon it, I would proceed.

2428 Q. About how often do yor usually make a trip to New York? A. I would say it would be an average of about once a month.

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Q. And your stay in New York at that time usually covers a period of two or three days? A. Very often only one day or maybe two days or maybe three days. I get out of New York just as quickly as I can. I stay long enough to do the business that I went down to do and leave as early
2429 as I can.

Q. Is there usually a formal meeting of the Executive Committee each time you go to New York? A. There are no formal meetings unless we have some formal action to take. It is a case of sitting down around a table for an hour or two or three or eight, discussing the matters that are up at that moment.

Q. I believe you stated that no action of the Executive Committee had ever been overruled by the Board. A. That is true.

Q. I believe you also stated that, as far as you can recall,
2430 since you had been president, there had never been any action by the Board that was not unanimous. A. As far as I can remember we have never had a dissenting vote on any action taken by the Board.

Q. What was the name of the gentleman whom you spoke of as possibly occupying the position as representative of the minority interests on the Board? A. Mr. W. H. Fillmore of Cincinnati.

Q. Why did you so characterize him in your direct testi-

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mony? A. Well, Mr. Fillmore became a director of our company, I think I testified, in 1907—at least away back—and a large amount of our common stock was owned in Cincinnati and Mr. Fillmore, in those early days, used to solicit proxies from the minority stockholders and was usually elected by means of those proxies. As long ago as—well, ever since The North American Company has been in control of The Cleveland Electric Illuminating Company, their stock has been voted for the election of Mr. Fillmore, I think, even beginning in 1922, so that, while he originally was elected 2432
to the Board by the votes of the minority stockholders, he has received the votes of all proxies ever since 1922.

That was the cause of my reference to him as possibly being considered a representative of the minority.

Q. He himself is a stockholder? A. Yes, he is a stockholder.

Q. Do you know approximately how much stock he owns? A. He owns a very substantial amount.

Q. Would that mean two hundred or three thousand shares, or in what way—— A. (Interposing) I would say in excess of three thousand shares. 2433

Q. When was the last stockholders meeting of The Cleveland Electric Illuminating Company? A. Our stockholders

—1,184—

meeting is held the last Wednesday in March of each year, so it would have been in the latter part of March this year.

Q. It was so held this year? A. It was, yes.

Q. Do you know how many persons attended in person? A. Not a soul other than the proxies. It was the first time in our history. That is why I happen to remember that. We

usually have two or three to eight stockholders present. Each stockholder, however, got notice of the meeting.

Q. Accompanied by a blank proxy form? A. That is right.

Q. Do you know what percentage of the total voting stock was represented—I started to say "in person or by proxy"; I mean "by proxy". A. I can only say approximately, but I think, as a rule, that between 90 and 92 per cent. of our stock votes at annual meetings, and that includes the com-
2435 mon and the preferred shares.

Q. You are speaking, now, in general? A. In terms of the proportion of the total outstanding stock that is voted.

Q. But you are not speaking of this particular meeting in March 1940? A. No. I can't state as to the percentage at that particular meeting, no.

—1,185—

Q. I presume that the stock was voted unanimously in favor of each resolution that was passed? A. That is true.

Q. To whom did the proxies so solicited run? A. I think
2436 they ran to E. G. Crawford, F. M. Cobb, and W. H. Fillmore.

Q. You or Mr. Cobb, I presume, cast the ballots? A. No. We all cast a ballot.

Q. The three of you, then, were present? A. The three of us were present.

Q. Then, members of the Board were unanimously re-elected at that time? A. Yes, sir.

Q. How often do your directors meet? A. Our directors meet regularly quarterly and at special meetings at the call of the president.

2437

Q. How many special meetings were there in the last calendar year? A. You mean in the last twelve months or in 1939?

Q. In 1939. A. I don't know that there were any. There may have been, however.

Q. In speaking of the period of your service shortly prior to the time that you became president of the company, when

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your predecessor was ill and was not expected to live, I believe you stated that you understood it was decided upon at 2438
that time that, in the event of the death of your predecessor, you would succeed him. By whom was it so decided upon? A. I didn't mean to state it as definitely as that.

Q. Possibly you qualified it as tentatively decided upon. A. I had many conferences with Mr. Dame who was chairman of the Board of The North American Company at that time, Mr. Gruhl, who was president of The North American Company at that time, and Mr. Fogarty, who was vice president of The North American Company at that time.

I advised them of the serious condition of Mr. Lindsay's 2439
health, and was told by them to proceed to act on behalf of Mr. Lindsay, by the management of the Company, and then, in February of that year, of the year of his death, which was 1933, Mr. Gruhl died—Mr. Gruhl, the president of The North American Company died.

Before he died, however, the matter of making me vice president of the Company, as well as secretary, had been discussed by Mr. Dame, Mr. Gruhl and Mr. Fogarty, with me, and I think the meeting at which I was elected vice president was held just after Mr. Gruhl's death, and it was held

2440 in Charlottesville, which was Mr. Lindsay's home at that time. He lived down there for a year before he died.

—1,187—

I was elected vice president and secretary at that meeting, and Mr. Lindsay, who presided as president of the Company, advised me of my election. I had been advised by the gentlemen I spoke of in New York, that that action would be taken, before that, and that, in Mr. Lindsay's absence, I would have to carry on, and that I could carry on better
2441 during the rest of his illness as a vice president than I could as secretary of the Company.

I think that probably is as far as it was assumed that I was to succeed him, but it was certainly my understanding that I was, and it eventually came about.

Q. Has Mr. Johansen ever attended a meeting of the Board of Directors, or appeared before your Board of Directors? A. I think not. We have had meetings in New York on a number of occasions, but we have always taken with us Mr. Hall, the secretary of the Company, to act as
2442 secretary at those meetings.

Q. That is to say, your Board of Directors has had meetings in New York? A. Oh, yes.

Q. At 60 Broadway? A. At 60 Broadway.

Q. What was the latest financing done by your Company prior to the recent 50 million dollar bond issue of this year.

—1,188—

A. That was in 1935.

Q. Will you describe briefly what that was, please? A. Well, in the first place, we sold 40 million 3¾ per cent. bonds

and retired a like amount of five per cent. bonds. We reorganized the capital stock of the Company and converted certain common shares into something like ten million dollars of preferred shares.

We also authorized an additional amount of 4½ per cent. preferred stock to be sold by the Company to retire the six per cent. preferred stock, which had been issued in 1923 and '24 and '25.

The bonds were sold by a syndicate headed by Dillon, Read and Company. 15 million plus were new stock 4½ 2444
per cent. preferred stock, issued by the Company, was sold by Dillon, Read and Company, and The North American Edison Company, I think, that held the stock in those days, also sold a block of the preferred stock, which came to them through the conversion through a syndicate headed by Dillon, Read & Company.

Q. North American Edison Company, since that time, has been dissolved and its assets taken over by its former parent—— A. (Interposing) That is my understanding.

Q. (Continuing) —its former parent, The North Amer-
ican Company, is that true? A. That is my understanding. 2445

—1,189—

Q. And it was at that time a subsidiary of The North American Company? A. Yes.

Q. Were you familiar with the details of the 1935 financing? A. I was very familiar with it at the time.

Q. Were they handled in a manner somewhat similar to that which you have described as being the manner in which the 1940 bond financing was handled? A. I would say that, as far as the bonds were concerned, the issuance of 40 million

2446 dollars in bonds, the same general trend of events took place, although they didn't take place at such great speed as we were forced to use in this last operation.

With respect to the preferred stock, there were two separate operations. The Illuminating Company arranged with Dillon, Read & Company to form a syndicate to sell the 15 millions of new preferred stock that we wanted to sell, The North American Company, I think, made similar arrangements to sell the stock that we were offering for sale.

2447 Q. You don't recall the approximate amount of spread in dollars, realized by the underwriters in connection with that financing? A. I think I do, with respect to ours.

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Q. Yes. A. I think the spread was two points on the bonds and two and one-half points on the preferred stock.

Q. Which would amount to approximately how much total in dollars? A. Well, I will have to do a little figuring here. Off the record.

(Discussion off the record.)

2448 A. I think that the cost to the Company on the 40 millions of bonds was approximately $800,000.00 and on the 15 million of preferred approximately $380,000.00, making a total of something less than $1,200,000.00.

Q. In each of the instances which you have mentioned Dillon, Read & Company was the syndicate manager of the underwriters? A. That is true.

Q. And in each instance which you have cited, the attorneys representing your Company were the same? A. In each instance in these recent financing, our attorneys were the

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same—Sullivan and Cromwell of New York and Squire, Sanders and Dempsey of Cleveland.

Q. By "recent financing", you include all the financing you have so far mentioned? A. Yes.

Q. Reverting to your New York office, in addition to the

—1,191—

sum of approximately 20 thousand dollars paid out by your company for its portion of the maintenance of that office during the year 1939, could you state approximately how much your company paid out through that office by way of extraordinary expenditures of any character, made by that office, for which you were billed? A. Why, I wouldn't know, but I would think it would be so small as to be negligible. I can think of no item of any size at all that we so paid.

2450

Q. The North American Company does no servicing of any character for your company, for which you are billed? A. No, they do not.

Q. Who suggested the 1935 financing? A. Mr. Fogarty.

Q. I believe you said that, in connection with the 1940 bond financing which had been theretofore discussed, Mr. Fogarty some nineteen days or so before the transaction actually took place called you, suggesting that it might be a good time for that financing to take place. A. And that, if it were done, that it should be done very promptly, because of a number of reasons to which I testified, I think.

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Q. And you agreed with that suggestion and the matter was accomplished in that way? A. Yes.

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2452 Q. Approximately how far is your territory from the territory of the Detroit Edison Company? By "your territory" I mean the territory served by your company. A. You mean the western boundary of our territory with the——

Q. (Interposing) Yes. A. (Continuing) ——with the nearest boundary of the Detroit Edison Company?

Q. Yes. A. I should think it might be somewhere between 120 and 140 miles.

Q. No interconnection of any character? A. There is no
2453 interconnection.

Q. The territory served by your company is not interconnected with the area serviced by any other operating company of The North American Company system? A. No, it is not.

Q. Except possibly through other systems in the middle west area? A. I think I can say——

Mr. Browning: (Interposing) Just a minute. Will you read that, please?

By Mr. Binford:

2454 Q. Except possibly through other systems in the middle west area? A. It is not interconnected in any way that I

know of.

Q. You have only one interconnection with another system, isn't that true? A. That is true.

Q. That is with the Ohio Edison Company? A. That is with the Ohio Edison Company.

Q. You don't know what the interconnections of the Ohio Edison Company are? A. No, I do not.

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Q. I believe you stated that the general counsel of your company lives in Cleveland. A. Yes.

Q. And is a member of your Board? A. He is a member of our Board, lives in Cleveland, and has his office in our building.

Q. Is he engaged also in the practice of law for other clients other than The Cleveland Electric Illuminating Company? A. I think not.

Q. He is employed upon an annual salary, then? A. He is employed on an annual retainer. 2456

Q. With additional compensation for extraordinary services? A. No. No additional compensation.

Q. In the case of extraordinarily large expenditures of

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funds, such, for instance, as in the installation of a new steam generating unit, would the conclusion of a purchase be made by you without prior conference with the other members of the Executive Committee? A. No, it would not. It would originate with me through a study by myself and our staff, of the requirements. The determination—or the 2457 recommendation as to where it should be located, the size of the station, the type of equipment which would go into the station, would be determined by us, a budget addition—a budget project would be—showing the estimated cost of it—would be prepared, and that budget would be submitted by me to the other two members of the Executive Committee for approval, or, if a board meeting were to be held shortly, it would be submitted to the Board and the matter would be discussed and action taken, either by the Executive Committee or the Board, before expenditures were actually made.

2458 *Eben G. Crawford—By Respondents—Cross*

Q. You would not choose definitely from which of the three or four companies in the market to supply such equipment as I have mentioned, as to the one from which you purchase, without prior authorization from the Executive Committee or the Board? A. I would do it without formal authorization, because I would discuss with the Board and tell them what my plans were as to the equipment that would be ordered, but there would be no formal action, either by

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2459 the Board or the Executive Committee, on the make or the type of equipment.

Q. Nor from the concern from which it is purchased? A. No. Nor the concern from which it is purchased.

Q. In other words there would be no minute of it; it would be merely an informal discussion? A. That is right.

Q. But there would be such informal discussion if the amount involved were large? A. I would say that was correct, yes, and in that connection, in discussing with the Executive Committee, I would state that I propose to buy with their approval a 60,000 kilowatt generator from the

2460 General Electric Company, and that I propose to buy sufficient boiler capacity from any one of two or three boiler firms, and in every case they have approved my judgment in the matter.

Q. From which office of your company are notices of meetings and proxy forms sent out—from the New York office? A. From Cleveland.

Q. From Cleveland? A. Yes.

Q. You mentioned the several standing inter-company committees of The North American System, including the

Station Operating Advisory Committee and certain other

—1,196—

committees. Have you ever attended a meeting of one of these committees personally? A. No, I never have, except of the executive conferences. I have never attended a meeting of the technical committees—none.

Q. How often do you have meetings of the executives of the companies? A. Well, we had a meeting June 12 and June 13, I think it was, and it was proposed that we should have another one in August. 2462

Q. That is, this year? A. This year. And the meeting was postponed because it was said that we were all too busy to have a meeting at that time, and it was deferred.

Q. When was the last one prior to this latest one? A. Well, the first one to be had was in June of this year. It followed Mr. Shea's coming into The North American Company —the first formal meeting of the executives.

Q. During your incumbency of the presidency of the Cleveland Company? A. That is right.

Mr. Binford: I have no further questions at this 2463 time and I don't anticipate having any further questions, but I should like to reserve the right to recall Mr. Crawford for further cross-examination, if it appears appropriate, later in the case.

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Redirect Examination by Mr. Browning:

Q. Mr. Crawford, I am not sure that, in your description of individuals whose compensation you share, who have

their office in New York, you mentioned Mr. Neil as a rate expert. A. Yes.

Q. Did you mention him? A. Yes.

Q. Is he an outstanding man in that field? A. He is very outstanding.

Q. Has he devoted any substantial part of his time to The Cleveland Electric Illuminating Company in the last few years? A. Yes. He has devoted—every time that we have proposed rate reductions or rate changes, we have consulted with Mr. Neil, and in most cases he has come out to Cleveland and spent a week or a month, as the case may be, and in connection with this recent rate case and this compromise settlement Mr. Neil was in Cleveland, I should say for four or five months, continuously, lived in Cleveland, and working on the ramifications of those rate changes.

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Q. In order to clear the record, the 1935 financing which you were asked about on cross-examination included two

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separate transactions which occurred at different times? A. Yes. The bond operation came first and was followed by the preferred stock operation.

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Q. In testifying as to the cost of these employees in New York, you said that the amount was approximately 20 thousand dollars for 1939.

In so testifying you meant that that included all expenses of any kind, did you not? A. That is right. The salaries, rent, and petty expense.

Q. Miscellaneous disbursements of any kind? A. Yes, of any kind.

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Q. You were asked questions regarding your counsel on the recent financing, and you named two individual lawyers, one in Sullivan and Cromwell and one in Squire, Sanders and Dempsey. Did you mean to imply that they were the only lawyers in those firms that were on that financing? A. No, I didn't mean to imply that. A number of attorneys in Sullivan and Cromwell, and at least three in Squire, Sanders and Dempsey were working day and night on that program. I don't know how many in Sullivan and Cromwell, because the work was done in New York, but I know at least three 2468
attorneys in the firm of Squire, Sanders & Dempsey that worked, worked continually on that, both in New York and Cleveland.

Mr. Browning: That is all.

(Whereupon a recess was taken.)

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The Examiner: You may proceed.

Mr. Browning: Mr. Examiner, we request an adjournment at this time of three weeks, to September 9, at which time we will expect to proceed with the 2469
presentation of evidence regarding the Wisconsin subsidiaries.

Mr. Binford: It is my understanding that beginning September 9 counsel for Respondents will be able to present continuously the evidence they wish to present with regard to the Wisconsin subsidiaries, and that thereafter, although some recess may be requested, it will be one of less duration than that now sought before going on with the St. Louis properties.

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Colloquy

If that understanding is correct, I have no objection to the granting of the recess requested.

Mr. Browning: That is correct.

The Examiner: Very well, with that understanding the matter is now continued until ten o'clock a. m., September 9.

(Whereupon, at 3:35 o'clock p. m., the hearing was adjourned to reconvene on Monday, September 9, 1940, at 10:00 a. m.)

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BEFORE THE

Securities and Exchange Commission

File No. 59-10

IN THE MATTER

of

2474

THE NORTH AMERICAN COMPANY, *et al.*

Hearing Room 1102,
Securities and Exchange Commission Building
Monday, September 9, 1940.
Washington, D. C.

2475

Met, pursuant to adjournment, at 10:00 o'clock a. m.

Before: W. W. SWIFT, *Trial Examiner.*

Appearances:

CHARLES S. HAMILTON, JR., of Sullivan & Cromwell, 48 Wall Street, New York City, Attorneys for the Respondents.

RALPH C. BINFORD, Attorney for the Securities and Exchange Commission.

2476

PROCEEDINGS

The Examiner: The hearing will be resumed.
Mr. Hamilton: Mr. Schmidtman.

EDWARD H. SCHMIDTMAN being called as a witness on behalf of the Respondents, being first duly sworn, was examined and testified as follows:

2477 *By Mr. Hamilton:*

Q. Will you give your name to the reporter? A. Edward H. Schmidtman, S-c-h-m-i-d-t-m-a-n.

Q. And your address? A. 8283 North Gray Log Lane, Milwaukee, Wisconsin.

Q. Are you connected with Wisconsin Electric Power Company? A. I am.

Q. In what capacity? A. I am a member of the department known as the Operating Research Bureau.

Q. And for how long a period have you been connected with them? A. I have been employed by Wisconsin Electric
2478 Power Company and in that department for fourteen years.

Q. And does the Operating Research Bureau perform services for Wisconsin Gas & Electric Company and Wisconsin Michigan Power Company in addition to Wisconsin Electric Power Company? A. Yes, it does. The department is

a branch of Wisconsin Electric Power Company but it performs services for Wisconsin Gas & Electric Company and Wisconsin Michigan Power Company as well.

Q. Now, will you explain what the function of the Operating Research Bureau is with respect to each of the three named companies? A. The function of the department

is to make general investigations and reports on all phases of operation of the properties of the three companies.

Q. Are you familiar with the territories served by the three companies named? A. Yes, I am. I have been over the territories of all three companies on various occasions in connection with the investigations we have made.

Q. Are you familiar with the operations of the three companies and with the problems arising therefrom? A. Yes, I am. In connection with the work done by our department, I have participated in investigations of various types 2480
for all three of the companies.

Q. Is the Operating Research Bureau at all times available for service—for study, investigation and research into problems of Wisconsin Gas & Electric Company and Wisconsin Michigan Power Company? A. Yes, it is. That is, the function of the department is to serve all three of the

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companies of the Wisconsin Michigan group rather than any one in particular.

Q. Will you now explain your professional training, Mr. Schmidtman? A. I was graduated from the University 2481
of Washington in Seattle in 1923 with the degree of Bachelor of Science in Civil Engineering. I then went to Iowa State College at Ames, Iowa, where, for three years, I served as graduate assistant and instructor in civil engineering.

During that time I completed the requirements for a master's degree in civil engineering. At the end of the first two years I had received that degree at that time. During the third year of my stay at Ames at Iowa State College, I was full time instructor in civil engineering, instructing in general civil engineering courses including hydro-electric engineering and other engineering topics.

2482 *Edward H. Schmidtman—By Respondents—Direct*

At the same time, during my third year there, I carried additional courses sufficient to complete the requirements for a Bachelor of Science in Electrical Engineering, which degree I received in the Spring of 1926.

I would like to continue that statement. I went with Wisconsin Electric Power Company in 1926. Between that time and 1931, I prepared a thesis for professional degree at Iowa State College which I received in 1931. That is the professional degree of civil engineer. My thesis was a
2483 report on an investigation of developing a water power site

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which Wisconsin Michigan Power Company owned in upper Michigan.

Q. Are you a registered professional engineer in Wisconsin? A. Yes, I am. I originally registered as civil engineer when the law for registration of civil engineers was passed. The law was subsequently changed to include all engineers under the general classification of professional engineer so my registration was automatically changed from that of civil engineer to that of professional engineer, which
2484 my present certificate specifies.

Q. Have you participated in a state-wide power survey in Wisconsin? A. Yes, I did. In 1937, the Wisconsin Utilities Association, which is an organization of electric utility companies in Wisconsin, appointed a committee for the purpose of making a state-wide survey of all power generation and transmission facilities in the state.

That survey was made very largely in the department in which I am employed. We had assistance from engineers representing other companies, but most of the work was done in our department. I participated extensively in that work.

In 1940, the spring of this year, the report of 1937 was brought up to date—that is, to the end of 1939—and that

supplemental report was made under my direct supervision.

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Q. Have you personally participated in conferences and negotiations with representatives of the Public Service Commission of Wisconsin with regard to regulatory matters? A. Yes, I have, on numerous occasions. I have conferred with Commission representatives on matters concerning electric rates, property accounting, service matters, inter-company agreements for services and rental of property and 2486 numerous other general topics of discussion between Commission engineers and company engineers.

Q. Now, in order that we may make clear in your testimony the names of the companies with which you are dealing, will you indicate the names of the companies comprising the so-called Wisconsin Michigan group of North American subsidiaries? A. The Wisconsin Michigan group of North American subsidiaries includes four operating companies—Wisconsin Electric Power Company, by which I am employed, Wisconsin Gas & Electric Company and Wisconsin Michigan Power Company, these three being operating electric and gas utilities. 2487

The fourth company in the group is the Milwaukee Electric Railway and Transport Company which is a wholly owned subsidiary of Wisconsin Electric Power Company.

Q. Is that company solely a transportation subsidiary? A. Yes. The Transport Company is engaged solely in the operation of the transportation system in Milwaukee and

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an interurban system of lines to neighboring cities.

It also operates gasoline and trolley busses in the city of Milwaukee.

Q. Was the name of the present Wisconsin Electric Power Company formerly the Milwaukee Electric Railway

2488 *Edward H. Schmidtman—By Respondents—Direct*

& Light Company? A. Yes, it was. Prior to October 21, 1938, Wisconsin Electric Power Company was known as the Milwaukee Electric Railway & Light Company.

At that time, the transportation business now conducted by the Milwaukee Electric Railway and Transport Company was conducted by the Milwaukee Electric Railway & Light Company along with the electric business.

On that date, however, the Wisconsin Electric Power Company, a former company under that name which owned
2489 a power plant that was leased to the Milwaukee Electric Railway & Light Company, was merged into the latter company and the name was changed to Wisconsin Electric Power Company and the transportation business was separated under the name of the Milwaukee Electric Railway and Transport Company.

Mr. Hamilton: May this map be marked as Respondents' Exhibit No. 32 for identification?

The Examiner: Yes.

(The map referred to was marked for identifi-
2490 cation as Respondents' Exhibit No. 32.)

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By Mr. Hamilton:

Q. Will you explain, Mr. Schmidtman, what Respondents' Exhibit No. 32 for identification portrays? A. Exhibit No. 32 is a blueprint map showing the electric service area of the three companies of the Wisconsin Michigan group and also showing the electric production and transmission facilities employed in serving that area.

Q. Has this map been prepared under your supervision? A. It has.

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Q. Are the facts shown with respect to the electric systems and service areas of the respective companies taken from the records of the respective companies stated on the map? A. Yes, they were taken from those records.

Mr. Hamilton: I offer it in evidence as Respondents' Exhibit No. 32.

Mr. Binford: No objection.

The Examiner: It may be received under that exhibit number.

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(The map referred to was received in evidence as Respondents' Exhibit No. 32.)

By Mr. Hamilton:

Q. Will you now explain, Mr. Schmidtman, the legend which appears in the lower right-hand corner of Exhibit No. 32? A. As indicated by the title of the map, this exhibit

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covers the systems and electric service area of Wisconsin Electric Power Company, Wisconsin Gas & Electric Company, and Wisconsin Michigan Power Company.

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Communities in which the companies render service directly to customers—by that I mean retail service—are indicated by the open circle. The symbol constituting a circle with a cross inside, designated as communities served wholesale, indicates communities to which the companies sell electrical energy at wholesale rates for distribution by municipal distribution systems in those communities.

The circle containing the large dot in the center indicates communities within the general area covered by the map which are not served from the systems of the companies, either wholesale or retail.

The open square with the vertical bar designates a steam power plant.

2494 Q. And the ownership of those plants may be taken to be, may they not, the company in whose service area the particular symbol appears? A. Yes, that is correct. We have shown, for example, steam power plants in the vicinity of Milwaukee. There are several such plants shown there and those plants, being within the area served by Wisconsin Electric Power Company, are owned by that company.

Those are the only steam plants on the entire map. There

—1,209—

2495 is a combination steam and hydro-electric plant at Appleton, designated by a square with a horizontal and vertical bar. The hydro-electric power plants, mostly located in the northern portion of the service area of the companies, are designated by open squares containing a horizontal bar.

The open triangle represents an electric sub-station. Some of these sub-stations are classified in our property account as distribution stations.

We didn't follow the accounting classification in determining which sub-stations we should show on the map; rather, we selected the sub-stations of major importance—

2496 those above the very smallest have been shown here as an indication of the extent to which sub-stations have been provided to serve the areas.

Q. So that all sub-stations are not actually shown on the map but only the more important sub-stations? A. That is correct. The symbol representing a gas plant is an open square. Those are found at Appleton and in the territory served by Wisconsin Gas & Electric Company.

Q. And by "gas plant" you refer to a gas manufacturing plant? A. Yes, a plant where gas is manufactured. There are two kinds within the properties of these companies—the type of plant that manufactures coke gas and the type that manufactures water gas.

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Gas holders are indicated by a cross or a square with a diagonal cross in it. Points of interconnection between the systems of the three companies and between any one of the three companies and other utility systems are shown by two short parallel lines drawn across the transmission line at the point of interconnection.

Where the interconnections are between the properties of two of the companies of the group, the change in ownership is designated by the color of the lines which I will explain in a moment.

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Where the interconnection is between one of the companies of the group and some non-affiliated electric utility, such as Wisconsin Power & Light Company, shown near the bottom of the map in Walworth and Rock Counties, the map will indicate the name of the non-affiliated utility with which the interconnection exists.

The ownership of the electric power lines is shown by coloring, the lines of Wisconsin Electric Power Company being colored red, those of Wisconsin Gas & Electric Company being colored yellow and those of Wisconsin Michigan Power Company being left in white.

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Q. Will you explain now the basis which has been adopted in showing electric power lines? In other words, above what voltage have you taken lines? A. As in the case of the substations, we have shown on this map the principal lines of

the company with the thought that we wanted the map to picture the extent to which these principal lines cover the territories served by the companies. We didn't follow a voltage designation strictly, although I can say that all lines of 132,000 volts, 66,000 volts, and 33,000 volts are shown on the map.

Some of the 26,400 volt lines owned by the companies are shown, some of the 13,800 volt lines are shown, and in a few instances where communities are served by lines of voltage below 13,800, we have shown lines that operate at primary voltage of 4,800 volts.

Q. No lines are shown of less than 4,800 volts? A. No.

Q. Can you state the basis for exclusion or inclusion of lines shown between 4,800 volts and 33,000 volts? A. Do you mean—yes, I can state that. Those lines below 33,000 volts which are classified as transmission in our classification of property, are all shown.

Q. I see. A. And some lines below 33,000 volts—that is, those which are in the distribution class—are shown because they take service to communities which we felt were important enough to show on the map. That is, we didn't think it would be very informative to show a community served without a line connecting to it.

—1,212—

Q. So that if you added to the map any lines which may exist of less than 4,800 volts, and distribution lines in excess of 4,800 and up to 33,000 volts, you would have a substantial number of lines in addition to those shown, is that right? A. Yes, we would have so many lines that I doubt that there would be room on the map to put them all on in the more heavily served areas.

The gas properties of Wisconsin Gas & Electric Company and Wisconsin Michigan Power Company are shown by the symbols indicated in the legend. The gas transmission lines are represented by short dashes, those of Wisconsin Gas & Electric Company being colored yellow and those of Wisconsin Michigan Power Company being left in white.

Q. Are all gas transmission lines shown? A. Yes, all of them owned by either or both of these two companies are

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shown. The electric service areas as indicated by the legend are shown by the diagonal lines or crosshatching. The symbol indicates which company serves each area.

Q. Will you now show us on Exhibit No. 32 the course of the Michigan and Illinois State lines? A. Yes. The Wisconsin-Illinois State line lies along the bottom of the map and it terminates the territory of Wisconsin Gas & Electric Company in Kenosha County.

—1,213—

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The Wisconsin-Michigan boundary line enters the map near the upper left corner. It is the heavy dash and dot line which is straight for a section and then it becomes rather twisting. This curved portion of the boundary line represents the Brule River and the Menominee River, the lower section being the Menominee River which flows into Green Bay.

There is one point just above the final "N" in the word Wisconsin, where the word Menominee appears. The draftsman shifted that word a little too far to the left where the name Menominee appears.

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The word Menominee County is in Michigan and that word should be entirely on the right-hand side of the river.

Q. Before going into any detailed description of the respective service areas, would you give us a general description so that it may be clear, particularly where service areas are adjacent, which company serves the particular territory? A. The combined territories of Wisconsin Electric Power Company and Wisconsin Gas & Electric Company occupy an area of 4029 square miles in the southeastern portion of the State of Wisconsin. This area includes the principal industrial districts of the State and also includes what might be termed one of the richest portions of the agricultural sections in the State of Wisconsin.

As can be seen from the map, the general shape of the

—1,214—

combined territories of these two companies is that of a rough semi-circle with its diameter lying along the west shore of Lake Michigan. The territory begins on the south at the Illinois boundary line and extends north about ninety miles along the shore of the lake.

The most westerly point is about sixty miles west from Lake Michigan at Milwaukee. This area includes the prin-
2507 cipal cities of Milwaukee, Racine, and Kenosha, which are the industrial centers of the entire district.

The other portions of the service area of these three companies are served by Wisconsin Michigan Power Company. One of them referred to as the southern division of that company lies in the vicinity of Appleton.

It extends about ten miles south, from Appleton along both shores of Lake Winnebago, west about forty miles, north about fifty, and east about ten miles from Appleton. This division includes a highly industrialized section of the
2508 lower Fox River Valley near Appleton, and a rich agricultural area lying to the north and to the west.

The northern portion of the service area of Wisconsin Michigan Power Company is located in northeastern Wisconsin and the upper peninsula of Michigan. It lies roughly parallel to the Wisconsin-Michigan boundary line extending for a length of approximately 120 miles in an easterly and westerly direction and has an average width of about sixty miles.

—1,215—

The lines surrounding the territory are quite irregular but those are the approximate mean dimensions. This northern portion of the territory includes the City of Iron Moun-

2509

tain, Michigan, and the cities of Crystal Falls and Iron River.

Q. You might locate those cities on the map. A. Iron Mountain is located in the vicinity of the name of Dickinson County at about the south central portion of the northern territory.

Crystal Falls is northwest from there, diagonally northwest, and is identified by a symbol indicating a community served wholesale.

2510

Iron River is due west from Crystal Falls. At that point we find a symbol indicating a Diesel engine generating station. At Iron River the system of Wisconsin Michigan Power Company interconnects with that of Iron Range Light & Power Company.

The northern territory includes, in addition to these cities, a fairly active—in fact, a very active at present—iron mining district in the vicinity of Iron Mountain, Crystal Falls and Iron River.

The northern territory also includes portions of Schoolcraft and Delta Counties located on the eastern end of the Michigan area.

2511

The business done in that district is a small portion of the total business of the company inasmuch as the company serves only about 315 customers in that district who, in

1939, consumed 228,000 kilowatt hours from which the company received gross revenue of about $12,500.00.

The company operates another short section of line which is detached from the main system of the company. This section is located in Marquette County and will be found on the map above the letter "A" in the word "Michigan".

Energy distributed on this line is purchased from Cliffs Power & Light Company, as is the energy distributed on the line in Schoolcraft County.

Q. Cliffs Power & Light Company is a non-affiliated company? A. Yes, it is non-affiliated.

Wisconsin Michigan Power Company serves 470 customers from this short section of line in Marquette County, who, in 1939, purchased 370,000 kilowatt hours for which they paid a gross revenue of $17,600.00.

2513 The combined sales on these two short sections of detached line in 1939 amounted to three-tenths of one per cent. of the total kilowatt hours sold by Wisconsin Michigan Power Company and produced revenues amounting to nine-tenths of one per cent. of the total revenue of the company.

Q. That again is a gross revenue figure, is it? A. Gross revenue, yes, and per cent. of the gross revenue.

Q. What is the population density of the territory of the three companies? A. The population density of the terri-

tories served by the three companies varies rather widely.

2514 Wisconsin Electric Power Company renders service in an area covering 867 square miles. In that area, the company serves a population of 873,500. The average density of that population in that area is slightly over 1,000 per square mile.

Wisconsin Gas & Electric Company, which serves the territory immediately adjacent to and completely surrounding the territory served by Wisconsin Electric Power Company, serves a population of 231,818. The area is 3,162 square miles and the average density of population is approximately 73 per square mile.

Wisconsin Michigan Power Company serves a population of 104,300 in the southern portion of its territory which has an area—correction—in the Wisconsin portion of its terri-

2515

tory including the section around Appleton as well as the area served in northern Wisconsin.

The Witness: Will you read my answer to me, please?

(Whereupon the answer above recorded was read by the reporter.)

The Witness: This territory has an area of 2,508 square miles.

By Mr. Hamilton:

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Q. That being the entire territory served by Wisconsin Michigan Power Company in Wisconsin? A. Yes, that is —1,218— what it is. That is the entire Wisconsin territory of Wisconsin Michigan Power Company.

Q. In Wisconsin. A. The density of population in that area is approximately 42 per square mile.

The Michigan territory served by Wisconsin Michigan Power Company covers an area of 5,781 square miles in which the company serves a population of 65,500. This gives an average population density of only 11 per square mile. The total territory served by Wisconsin Michigan Power Company in both Wisconsin and Michigan has an area of 8,289 square miles and in that area the company serves a population of 169,800.

2517

These figures show that the average population density of all territories served by Wisconsin Michigan Power Company in both states is only 20 per square mile which is a relatively low population saturation.

Now, summarizing for the three systems as a whole, we find that the companies are serving a population of 1,275,000 in a total area of 12,318 square miles, giving an average density of population of 104 per square mile.

2518 Q. What is the relation of the territories served by the companies to the entire square mileage of Wisconsin? A. The companies serve a total of 6,537 square miles in Wisconsin alone. The area of Wisconsin is 55,256 square miles.

—1,219—

That would indicate that the companies are serving somewhere in the neighborhood of 12 per cent. of the total area of the State of Wisconsin.

The population served in that area is 1,209,600. The
2519 1940 population of Wisconsin was reported to be 3,125,000. From these figures we can see that the companies are serving slightly less than 40 per cent. of the total population of Wisconsin.

Q. Mr. Schmidtman, in indicating the population served, you are not purporting to indicate the number of customers served but rather the total number of persons residing in the territory indicated, isn't that true? A. No, not exactly. When I state "population served" I mean the population of the areas including communities in which the companies render electric service.

2520 To elaborate a little, the territory of Wisconsin Gas & Electric Company includes the Village of Slinger, which can be found on the map to the right and slightly below the name of Dodge County. It is indicated by a circle containing a cross which means the company sells energy wholesale to that community.

The population of that community is not included in the figures I have given as population served by the company because that population is served by the municipal utility which operates in that municipality.

—1,220—

In the case of Hartford, which is located to the left and slightly below Slinger, the company likewise does not render

service in that area and so the population of that area has not been included in our figures.

With respect to the distinction between population and customers, however, the answer to your question is yes. These figures do not indicate the number of customers on our systems. They indicate simply the number of people residing in the areas where the three companies of the Wisconsin-Michigan group actually render service.

Does that answer the question suitably?

Q. Yes. These figures again are solely for electric service, 2522
are they not? A. Yes.

Q. They don't purport to take in gas? A. They apply to electric service only.

Q. How many communities are served by the three companies? A. The three companies render electric service in a total of 388 communities in the states of Wisconsin and Michigan.

Q. And how is that figure divided between the companies? A. Wisconsin Electric Power Company renders electric service in 64 communities. These 64 comprise seven cities, nine- 2523
teen villages, and thirty-eight townships which are unincor-

porated.

Wisconsin Gas & Electric Company renders electric service in a total of 170 communities, including seven cities, forty villages, and 123 townships.

Wisconsin Michigan Power Company renders electric service in 94 communities in Wisconsin and 60 communities in Michigan. The Wisconsin communities include three cities, fourteen villages, and 77 townships, while the Michigan communities served include three cities, six villages and fifty-one townships.

The make-up of the total of 154 communities served by Wisconsin Michigan Power Company is six cities, twenty villages and 128 townships

The three companies together serve electric customers in twenty cities, 79 villages and 289 townships, making the total of 388 I gave you before.

Q. These communities to which you have referred are located in how many counties? A. They are located in a total of thirty-seven counties, of which twenty-six are in
2525 Wisconsin and eleven are in Michigan.

Among the more important counties included in the service area of the three companies are Milwaukee, Racine, Kenosha, and Waukesha Counties, in Wisconsin, which are the more heavily populated counties in the combined territories of Wisconsin Electric Power Company and Wisconsin Gas & Electric Company and Outagamie County, Wisconsin,

—1,222—

and Dickinson and Iron Counties, Michigan, which are served by Wisconsin Michigan Power Company.

2526 Other counties in which the population is not so heavy but in which substantial service is rendered are Ozaukee, Washington, Jefferson and Walworth in Wisconsin, and Waupaca and Oconto Counties, also in Wisconsin. The other counties served in Michigan are not heavily populated.

(Discussion off the record.)

By Mr. Hamilton:

Q. In order to get an idea as to the relative importance of the communities served population-wise, would you indicate the communities served by Wisconsin Michigan Power Company having a population of an excess of 2000 persons? A. Of the twenty-six incorporated communities—that is,

2527

cities and villages—served by Wisconsin Michigan Power Company in Wisconsin and Michigan, six have a population of 2000 or more. Of these six, four are cities and two are villages.

The largest of these is the City of Appleton, Wisconsin, in which the—in and around which the principal industrial business of Wisconsin Michigan Power Company is conducted.

Q. What is the population of Appleton? A. The population of Appleton is 28,458. Appleton is the principal city 2528

—1,223—

served by Wisconsin Michigan Power Company. It is a residential city and is also the center of a very active industrial area in the Fox River Valley.

Lawrence College and the Institute of Paper Chemistry are located there. The Institute of Paper Chemistry is a research institution endowed by the paper industry. It is not conducted as an educational institution for the public, but is sort of a research foundation in which new processes and new products related to the paper-making industry are developed. Some of the finest paper chemists in the country 2529 have had their training and are improving their training in this institute.

Among the industries in and around Appleton, the principal ones are paper mills and other industries related to the manufacture of paper and paper products. Other factories in the area produce knit goods, among which are goods for personal wear as well as the knitting of wool blankets which are used in the manufacture of paper.

It is a very precise operation; a very high-grade product is required to serve this use.

Other industries in Appleton produce agricultural implements, toys and various products of wooden ware.

2530 There is a brewery located at Appleton and also a large milk condensery.

Appleton is a natural industrial center for this section

—1,224—

of the state because of the presence of available water power in the Fox River. The early industries which settled in Appleton utilized this water power entirely for their manufacturing operations—that is, for their power requirements —and many of those industries still make extensive use of

2531 the water power in the Fox River, but industrial loads in the area in general have far outgrown the amount of power available from the River, and so many of the industries—most of them, in fact—purchase substantial quantities of power from Wisconsin Michigan Power Company.

The next largest city served by Wisconsin Michigan Power Company is Neenah—N-e-e-n-a-h—which is located on the shore of Lake Winnebago a few mlies south and west of Appleton.

Neenah has a population of 10,642. This city is located at the point where the Fox River flows from Lake Winnebago

2532 and, as was the case in Appleton, Neenah also has fairly large amounts of water power available from the Fox River. The United States Government owns and operates a dam across the Fox River at Neenah which is operated for the purpose of regulating the discharge from Lake Winnebago in using it as a storage reservoir to maintain navigable flows of water in the Fox River.

The Fox River is a navigable stream and considerable shipping is done on it from Green Bay up into Lake Winnebago and to the cities located on Lake Winnebago.

—1,225—

The principal industries in Neenah also relate to the manufacture of paper and various paper products.

2533

Iron Mountain, Michigan is the principal city served by Wisconsin Michigan Power Company in the State of Michigan. It has a population of 11,500. It is located in the Menominee iron range.

I spoke a while ago of the iron mining activities in the portion of the Michigan territory lying along the Wisconsin boundary. On of the active areas in this iron range is in the immediate vicinity of Iron Mountain.

The other industries in Iron Mountain are saw mills and smaller industries producing wood products.

2534

Kingsford, Michigan, is a village which is largely a residential suburb of Iron Mountain and is located immediately at the south limits of Iron Mountain. Kingsford has not been shown on the map. We regard Kingsford and Iron Mountain in an operating sense as one combined community, but in discussing them, for the purposes of desc ibing the territory served, we have taken it up separately in order to tell of its characteristics.

Kingsford has a population of 6500. Its only major industry is a saw mill and a plant of the Ford Motor Company where station wagon bodies are made. These bodies are made of wood and the plant is located here to utilize the wood available in the surrounding territory.

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—1,226—

The next larger community served by Wisconsin Michigan Power Company is Kimberly, Wisconsin, which is located on the Fox River, a few miles downstream from Appleton. It appears on the map.

Kimberly has a population of 2700. It is a residential suburb of Appleton. A large paper mill of the Kimberly-Clark Corporation is located in Kimberly, utilizing the water power from the Fox River in carrying on its paper manufacturing operations.

2536 *Edward H. Schmidtman—By Respondents—Direct*

Large quantities of wood are ground into pulp at this plant and the plant produces papers of various quality. The Kimberly-Clark Corporation has generally specialized in the manufacture of high quality papers—bond and paper for accounting forms, and paper used in the rotogravure sections of the Sunday newspapers. They are a very progressive corporation and one of the largest customers of Wisconsin Michigan Power Company.

Mr. Hamilton: Off the record.

2537

(Discussion off the record.)

The Witness: Niagara, Wisconsin, a village of 2100 population, is served by Wisconsin Michigan Power Company. Niagara is located just south of the Michigan boundary and can be found on the map by following the high voltage transmission line vertically to the point where it strikes the Michigan boundary,

—1,227—

then immediately to the left you will find Niagara.

It is indicated as a community served by the company and also is a point of interconnection between the system of Wisconsin Michigan Power Company and a plant of Kimberly-Clark Company.

2538

Niagara is largely a residential community, but has the one principal industry—the Kimberly-Clark Paper Mill. The mill is constructed at Little Quinnesec Falls—Q-u-i-n-n-e-s-e-c—on the Menominee River.

That is one of the major falls in the stream and is a site of substantial water power capacity. The Kimberly-Clark mill utilizes the power in the river at that point in operating its mill, and as will be pointed out later, the interconnection with Wisconsin Michigan

Power Company permits it to dispose of surplus energy from the plant and to obtain firm power during periods of deficiency in their own source.

By Mr. Hamilton:

Q. Does Wisconsin Michigan Power Company serve a large rural area as well? A. It does, yes. The area surrounding Appleton and reaching to the north and the west is very largely rural. The communities located within that area are relatively small and the principal activity as well 2540
as the principal income of the district relate to agricultural pursuits.

—1,228—

This area produces large numbers of hogs and in that connection the farmers raise large crops of grain and also have dairy herds, produce dairy products, and various products related to dairying, largely for feed.

There is some truck farming also in the immediate vicinity of Appelton to the north and somewhat to the west. Various vegetables that thrive on relatively short seasons are produced there in great quantities. 2541

In the northern portion of the territory of Wisconsin Michigan Power Company lying in northern Wisconsin and in Michigan, there are large rural areas lying between the scattered urban centers. In these rural areas are wide stretches of forest land, the best timber having been removed during the years of the logging boom in Wisconsin and Michigan, and the timber now standing being made up now largely of second growth soft wood, poplar and basswood, quick growing soft-wood trees of that general character.

Some of the area in that district is still covered with original stands of hardwood—hickory, maple and oak.

Q. Does Wisconsin Michigan Power Company serve all the incorporated communities within its territory? A. Yes, it does. It does with the exception of those served by municipal utilities. By that I mean aside from the municipal utilities there are no incorporated communities served within the territory. —1,229—

Now, those municipal electric systems are operated in eight municipalities. Menasha, which is located immediately across the river from Neenah on Lake Winnebago right at the
2543 northern tip of Lake Winnebago, operates one of these municipal electric utilities.

The Menasha system serves about 3,100 electric customers. Menasha has a population of 10,900. The energy which is distributed on the Menasha municipal system is generated very largely in an internal combustion generating station operated by the city.

That station has a capacity of 2,500 kilowatts. The plant is of insufficient capacity, however, to carry all of the loads served by the municipal utility, and it has been necessary from time to time for the city to purchase supplemental
2544 power from Wisconsin Michigan Power Company to make up for the deficiency in its own plant.

That is, the load has grown beyond the ability of the plant to carry it and the municipal system is connected with that of Wisconsin Michigan Power Company.

—1,230—

The plant, being of limited capacity, is also unable to serve all of the industrial loads within the city and for that reason for a number of years Wisconsin Michigan Power Company has served all of the large industrial power loads located within the city, in addition to supplying supplemental energy to the municipal system for distribution to its customers.

During the year 1939 Wisconsin Michigan Power Company delivered 2,913,600 k. w. h. of electrical energy to the municipal sysem. That isn't a very large quantity of energy but it is always taken at a time when the municipal plant is in need of additional capacity and is considered firm energy of the highest type.

By Mr. Hamilton:

Q. That figure is exclusive of sales which you make direct to large industrial users in the city? A. Yes, that is true. 2546

Another municipality in this district is operated by the city of Kaukauna. Kaukauna is also located on the Fox River, but is downstream from Appleton. It appears in the open space on the map, immediately to the right of Appleton. It is indicated by a symbol which shows that energy is sold to the city by Wisconsin Michigan Power Company at wholesale.

There is also a symbol showing an interconnection between the electric system of Wisconsin Michigan Power Company and the electric system operated by the city of Kaukauna. 2547

—1,231—

Q. And what is the population of Kaukauna? A. Kaukauna has a population of 7,200 and the municipal utility renders service to approximately 3,100 customers.

Kaukauna operates two hydroelectric stations on the Fox River. At this point I think I should explain that the United States Government operates navigation dams on the Fox River for the purpose of maintaining navigable depths of water in the river and in canals paralleling the river between the dams and locks. There is more than enough water flowing in the stream under normal stream flow conditions to furnish the needs for these navigation purposes and the right

to utilize the power at the Government dams represented by that excess flow is owned by Green Bay and Mississippi Canal Company, which, through a long history, came into the ownership of this water right, that is the right to use the power in flowing water.

Green Bay and Mississippi Canal Company does not own nor operate any water power plants on the river but it leases the water power at the various navigation dams to different users. The city of Kaukauna operates two water power
2549 plants at two of such dams; one is known as the Badger plant, located in the city of Kaukauna, at the Kaukauna dam, and the other is located a short distance downstream, at the Rapide Croche dam.

The city operates the two power plants, paying Green Bay and Mississippi Canal Company annual tolls for the use of the falling water, and uses the output from these plants in operating its municipal electric utility. The two plants pro-

duce more energy at certain seasons of the year than the municipal system is able to utilize in serving its customers,
2550 that is during seasons of average flow and of high flow when the generating units in the plants have enough water to operate at full load they produce more energy than municipal utility requires for its customers.

During those periods, by means of the interconnection with Wisconsin Michigan Power Company, Kaukauna delivers that excess energy into the system of the company. That energy is what we call surplus or dump hydroelectric energy. We call it that because it comes only at the times when streams are in flood, or at the times when the loads on the municipal distribution systems are below the output of the plants.

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During other seasons of the year, however, when the stream drops to low flow conditions, the plants do not put out enough energy to carry the needs of the municipal distribution system. At those times the city of Kaukauna purchases energy from Wisconsin Michigan Power Company to make up its own deficiency of supply.

In 1939 the city of Kaukauna sold to Wisconsin Michigan Power Company 4,089,800 k. w. h., and purchased from the company 2,709,000 k. w. h. Kaukauna has several industries, most of which are paper mills or other industries related to 2552
the manufacture of paper products.

Shawano, Wisconsin, located on the eastern edge of Shawano county, in the northwest portion of the southern

—1,233—

area served by Wisconsin Michigan Power Company, also operates a municipal electric distribution system. Do you find it?

Shawano has a population of 4,800. The electric distribution system operated by the city does not include any power generation facilities whatever, all of the power requirements of the system being purchased from Wisconsin Michigan 2553
Power Company.

In 1939 the municipal electric system purchased 3,796,693 k. w. h. from Wisconsin Michigan Power Company for distribution to about 1,700 customers. Shawano is a trading center for a large rural area devoted principally to dairying and products related to the dairying industry. The area served by Shawano in that respect, lies partly within the territory served by Wisconsin Michigan Power Company and partly outside the territory of the company. The industries located in Shawano consist principally of condensed milk canneries and other milk processing plants.

New London, Wisconsin, which is located in Waupaca county, southwest from Shawano, also operates a municipal electric distribution system. As is the case with Shawano, New London purchases all of its energy requirements from Wisconsin Michigan Power Company and does not operate any power generation facilities. It never has operated any power plant.

The New London system serves about 1,200 customers and in serving those customers it purchased from Wisconsin
2555 Michigan Power Company in 1939, 4,791,966 k. w. h. New

London is largely a residential community in an agricultural area much like Shawano. Its principal industries are a vegetable cannery and a milk condensery. You will notice that in the case of most of these communities in the southern portion of the area served by Wisconsin Michigan Power Company the industries are related to agricultural products showing the agricultural nature of the general area.

Oconto Falls, Wisconsin, which is located in Oconto county about 20 miles west of Green Bay, operates a munici-
2556 pal electric distribution system. This system sells about 400,000 k. w. h. annually to approximately 500 customers. It operates no power generation facilities, purchasing all of its energy requirements from Wisconsin Michigan Power Company. The principal industry at Oconto Falls is a pulp mill, the power loads of which are served directly by Wisconsin Michigan Power Company.

This pulp mill is located on the Oconto River, on which is also located the Oconto Falls hydroelectric plant of Wisconsin Michigan Power Company, indicated by the hydroelectric power plant symbol shown on the map. The pulp mill uses water power from the Oconto River in grinding pulp to the extent that such power is adequate to meet its

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needs and power requirements above that are purchased from Wisconsin Michigan Power Company.

The city of Norway, Michigan, located in the open space in the territory served by Wisconsin Michigan Power Company, east of Iron Mountain and lying north of and adjacent

—1,235—

to the Wisconsin-Michigan boundary line, operates an electric distribution system. This system serves approximately 1,200 customers and purchases all of the energy distributed to these customers from Wisconsin Michigan Power Company through the interconnection indicated on the map.

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In 1939 Wisconsin Michigan Power Company sold the city of Norway 1,528,674 k. w. h. for distribution on the municipal system.

Q. And its population is what? A. The population of Norway is 3,500. Norway is largely a residential community, to some extent a suburb of Iron Mountain, and is situated in the iron mining district on the southeastern end of the Menominee iron range.

Crystal Falls, Michigan, operates a municipal hydroelectric generating station and distribution system. This city is located in Iron county east of Iron River, in the area not served by Wisconsin Michigan Power Company.

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The city of Crystal Falls generates most of its energy requirements for the distribution system by means of the hydroelectric plant which it operates on the Paint River flowing through the city. Here, again, however, there are times when the plan is capable of generating power faster than the customers of the system need it. During such times the city delivers that surplus energy to the system of Wisconsin Michigan Power Company as dump hydroelectric energy. Likewise there are seasons when the Paint River flow falls

—1,236—

to such a point that there is not sufficient water in the stream to carry the loads of the municipal system and at those times the city buys make-up power from Wisconsin Michigan Power Company.

In 1939 the city sold 595,200 k. w. h. of surplus hydro-electric energy to Wisconsin Michigan Power Company, and purchased 11,400 k.w.h. of firm energy from the company. This exchange of energy is not extensive as indicated by the figures, but it is quite important to the municipal utility to
2561 be able to dispose of the surplus output because if it had no market that power would be wasted in the form of water spilled over the dam and it is likewise important, even more so, to the municipality to be able to purchase firm power during its times of need.

Q. What is the population of Crystal Falls? A. Crystal Falls has a population of 2,600, and the municipal system there serves approximately 900 customers.

Crystal Falls has no major industries within the corporate limits but it lies in the center of a very active section of the iron mining district in the Menominee range. A num-
2562 ber of large scale iron mines operate in the immediate vicinity of Crystal Falls. These mines, however, are outside the area reached by the municipal utility and are served entirely by Wisconsin Michigan Power Company.

The Examiner: Let us have a recess for five minutes.

(Whereupon, after a brief recess the hearing was resumed.)

The Examiner: All right.

Edward H. Schmidtman—By Respondent—Direct 2563

By Mr. Hamilton:

Q. Proceed. A. There is one other electric utility operated by a public body within the territory served by Wisconsin Michigan Power Company. That is the utility operated by the Florence Water and Light Commission, of the Township of Florence. The presence of the system which is served wholesale by Wisconsin Michigan Power Company is designated by the symbol indicating wholesale service at Florence, which is located in Wisconsin, south and a trifle east of Crystal Falls. 2564

The community of Florence is unincorporated but electric service is rendered in that community and in the neighboring community of Commonwealth by the electric distribution system which is operated by the Township Board of the Township of Florence. This system serves approximately 300 customers, all of the energy distributed being purchased from Wisconsin Michigan Power Company through the interconnection shown on the map.

In 1939 the Florence Water and Light Commission purchased 465,100 k. w. h. from Wisconsin Michigan Power Company for distribution to its customers. The community 2565 of Florence has a population of 1100. It is located in the general area lying between Iron Mountain and Crystal Falls, and some iron mines operate in the general vicinity. It is a small residential community with no industries directly

—1,238—

inside the community area.

Q. Turning now to Wisconsin Gas & Electric Company, what cities are served with electric service by it in its territory? A. Wisconsin Gas & Electric Company renders electric service in seven cities. The principal city served by the company is Kenosha, which has a population of

48,464. Kenosha is an important city in the industrial area of Wisconsin. It is located seven miles north of the Illinois line and is on the shore of Lake Michigan.

The principal industries operating in Kenosha and served by Wisconsin Gas & Electric Company, are the Nash Kelvinator Corporation which manufactures Nash automobiles in Kenosha; the American Brass Company, which manufactures a large variety of brass and copper products; the MacWhite Company, which manufactures MacWhite wire rope;
2567 the Simmons Manufacturing Company, which produces bed springs and mattresses; Coopers' Incorporated, manufacturing various knit goods; Kenosha Full Fashioned Mills, which also make knit goods; and the Peter Piersch & Company, widely known manufacturers of fire-fighting equipment.

Waukesha, Wisconsin, is also served by Wisconsin Gas & Electric Company. It is located about 14 miles west of Milwaukee, entirely within the area served by Wisconsin Electric Power Company. The territory served in that district by Wisconsin Gas & Electric Company is indicated by
2568 the line enclosing the area cross-hatched with the symbol indicating service area of Wisconsin Gas & Electric Com-

—1,239—

pany.

Waukesha has a population of 19,205. It is a residential and industrial community. Its principal industries include the Waukesha Motor Company which manufactures gasoline engines; the Foxhead Waukesha Corporation, which manufactures beer, soft drinks and bottles and distributes mineral water; the Borden Milk Products Company, which produces various milk products; the Crittal-Federal, Inc., who produce steel sash and other steel products for building construction.

2569

Waukesha is also known for its sanitariums and mud baths. Large quantities of limestone, sand and gravel are produced there. All of these industries, as well as others which I haven't mentioned, are served directly as customers of Wisconsin Gas & Electric Company.

The city of Watertown, with a population of 11,270, is served by Wisconsin Gas & Electric Company. Watertown is located directly on the county line between Dodge and Jefferson counties, and about midway east and west between the extremes of Dodge county. It is 45 miles north and

2570

west of Milwaukee.

Watertown is largely residential in nature but has a few industries, among which are the Village Blacksmith Folks, manufacturers of a well-known line of cutlery; the Walter Booth Shoe Company is located there, as well as three large dairies and several manufacturers of wood specialties.

Fort Atkinson, which is situated in the southern portion

—1,240—

of Jefferson county, has a population of 6,140. Electric service is rendered there by Wisconsin Gas & Electric Company. In addition to being a residential center for a large

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agricultural area, Fort Atkinson has several dairy products plants which produce cheese and butter. It also has a knitting mill and two plants which manufacture various types of farm equipment.

West Bend is also served by Wisconsin Gas & Electric Company. It is located due west from Port Washington which is on the shore of the lake, 25 miles north of Milwaukee.

West Bend and its suburb, the village of Barton, constitute a very active industrial and residential community.

2572 *Edward H. Schmidtman—By Respondents—Direct*

The Amity Leather Company, manufacturers of a wide line of leather goods; the Enger-Kress Company, which also manufactures leather goods; and the West Bend Aluminum Company, are located in West Bend. Other industries in West Bend and Barton which are usually considered as one center, include brewing and malting, stone quarrying, the manufacture of knit goods, automobile accessories, electrical equipment, laundry equipment, and dairy products.

Q. Have you given the population of West Bend? A.
2573 The population of West Bend is 5,456.

Wisconsin Gas & Electric Company also renders electric service in the city of Burlington which is located in the southwest corner of Racine county. Burlington has a population of 4,111. It is principally a residential community, surrounded by an agricultural and summer resort area. Its principal industries include a brewery, a brass foundry, and

an ice cream factory. A considerable amount of business is done in Burlington by people who go to that area to visit the resorts on the lakes. Because of that fact the electrical
2574 sales in Burlington do not show the usual seasonal decline in summer that is shown by sales in many communities.

Whitewater, which is located in the northwest corner of Walworth county, has a population of 3,679. It is a residential community which serves as a trading area for a rural district surrounding it. Its major industries are a brewery and a dairy products plant.

Q. Are there municipal electric utilities located in the territory served by Wisconsin Gas & Electric Company? A. Yes, there are. There are nine such municipal electric utilities within the territory served by Wisconsin Gas &

2575

Electric Company. Of these nine, six of them purchase their total energy requirements from Wisconsin Gas & Electric Company and three generate power. Of those which purchase their entire requirements from Wisconsin Gas & Electric Company, Elkhorn is one.

Elkhorn is located at about the center of Walworth county. As indicated by the map, its system is interconnected with that of Wisconsin Gas & Electric Company and power is sold at wholesale to the city for distribution to its customers. The municipal system operated by the city of 2576
Elkhorn serves approximately 1,000 customers and in 1939 the city purchased 3,086,400 k. w. h. from the company in

—1,242—

serving those customers.

Elkhorn is also located in the same general resort area in which Burlington is situated and has a considerable residential population. Its industries are generally associated with dairying, a large plant of United Milk Products being located there.

Q. What is the population? A. The population of Elkhorn is 2,700. 2577

Another city operating a municipal utility, located within the territory of Wisconsin Gas & Electric Company, is the one at Jefferson, Wisconsin. Jefferson has a population of 2,700. The municipal utility operated by the city of Jefferson purchases its entire power requirements from Wisconsin Gas & Electric Company, taking 3,256,320 k. w. h. from the company in 1939. This energy was distributed to about 1,100 customers.

The community is largely residential but has one major industry which is a plant of the Copeland Ryder Shoe Company.

2578 *Edward H. Schmidtman—By Respondents—Direct*

I did not locate Jefferson for you on the map. It is in Jefferson county, slightly west of the center of the county.

A municipal utility is operated by the village of Kiel, Wisconsin, which is located at the northern edge of the territory served by Wisconsin Gas & Electric Company. The village is shown on the map at the line between Manitowoc and Calumet counties, near the southwest corner of Manitowoc county.

Kiel has a population of 2,000. The municipal distribu-
2579 tion system serves approximately 800 customers and in 1939 it purchased 1,295,200 kilowatt hours from Wisconsin Gas

—1,243—

& Electric Company for distribution to its customers.

The principal industry located in Kiel is the factory of the Kiel Furniture Company. The village of Kiel is not located strictly within the confines of the territory served by Wisconsin Gas & Electric Company, but we have shown it as one of the communities to which the company renders electric service at wholesale.

The village of Deerfield, Wisconsin, is located in the west-
2580 ern tip of the territory of Wisconsin Gas & Electric Company, in Dane County. It has a population of about 400. It is a residential village with vegetable canning plants located in the country-side around the village.

The municipal distribution system operating there serves about 200 customers and its entire power requirements, which were purchased from Wisconsin Gas & Electric Company in 1939, amounted to 887,000 kilowatt hours.

The Village of Slinger, with a population of 800, also purchases energy from Wisconsin Gas & Electric Company for distribution on a municipal electric system.

Slinger is located near the center of Washington County. The municipal system of the village serves about 200 customers and purchased 689,760 kilowatt hours from Wisconsin Gas & Electric Company for distribution in 1939.

(Discussion off the record.)

—1,244—

The Examiner: Back on the record

Mr. Hamilton: Will you read the last statement by the witness?

(Whereupon the last above statement was read by the reporter.)

The Witness: There are no industries worthy of note in the village of Slinger, but the village derives its principal business from the resort area in which it lies.

Wisconsin Gas & Electric Company sells electrical energy at wholesale to the municipal utility operated by Waterloo, Wisconsin. Waterloo has a population of 1300 and is located in the northwest corner of Jefferson County. The municipal system in that community serves approximately 500 customers, and in 1939 it purchased 1,848,938 kilowatt hours from Wisconsin Gas & Electric Company.

The municipal utility purchases its entire energy requirements from the company. Waterloo is a residential community deriving some business from the surrounding agricultural and resort district.

Three of the municipal electric utilities operating within the territory served by Wisconsin Gas & Electric Company generate their own power.

2584 *Colloquy*

One of these is that at Cedarburg, which appears on the map south and west from Port Washington. It is designated by a symbol which indicates a community not served from the system of any of the companies.

—1,245—

Cedarburg has a population of 2300. The municipal utility there operates a Diesel engine generating station which has an installed capacity of 1500 kilo-
2585 watts. It serves approximately 760 customers and the annual sales amount to about 1,500,000 kilowatt hours.

Cedarburg is located in a rich agricultural area north of Milwaukee, which produces fruits, grains, garden truck and dairy products.

Several mink and fox farms are located near the city, the principal ones being those of Fromm Brothers, who are nationally known in fur circles for their production of silver fox.

A factory producing a nationally known brand of outboard motors and small gasoline engines is located
2586 at Cedarburg. The loads of all industries within the city are served by the municipal utility, but the surrounding area is served by Wisconsin Gas & Electric Company.

The City of Hartford, Wisconsin, operates a steam generating system which produces all the energy required on the distribution system operated by the city. Hartford is located in the open area in the southwest corner of Washington County.

Hartford has a population of 3000 and the municipal electric system operated by the city serves ap-

proximately 1500 customers, a number of whom are

—1,246—

located outside the city and are not included in the population figure.

The open area south of the symbol indicating the city, represents rural territory served from the system operated by the city. The division of that territory from that of Wisconsin Gas & Electric Company is by agreement between the municipal system and the company. 2588

In 1939, the Hartford municipal utility sold approximately 2,300,000 kilowatt hours to its customers. Hartford is within the general resort area lying in that part of the state and derives a large part of its business from the resort traffic.

The third municipal electric utility generating its own power requirements and operating within the territory of Wisconsin Gas & Electric Company, is that operated by the Village of Lake Mills, Wisconsin.

Lake Mills is located in the western portion of Jefferson County, northwest of the City of Jefferson. 2589

The symbol shown on the map is the one indicating a community served retail from the system of one of the companies. In this case the symbol represents retail service from the gas system of Wisconsin Gas & Electric Company. Wisconsin Gas & Electric Company has no interconnection with the electric system in Lake Mills and sells no energy to that system.

—1,247—

The municipal electric system has a Diesel engine generating system with a capacity of 1100 kilowatts.

2590 In 1939 the system distributed about 1,800,000 kilowatt hours to approximately 1000 customers.

Q. Now, in order to get an idea as to the importance of other communities which Wisconsin Gas & Electric serves, other than those which you have already named, would you indicate the communities served by the company having a population in excess of 3000? A. Do you mean Wisconsin Electric Power Company?

2591 Q. I am sorry—Wisconsin Electric Power Company. A. Yes. Wisconsin Electric Power Company renders electric service in the City of Racine, which has a population of 67,159. Racine is located on the west shore of Lake Michigan, about twenty-five miles south of Milwaukee, and is the second largest industrial city in the State of Wisconsin.

It is served by two steam railroads, one interurban electric railway, and several bus and truck lines.

Racine is widely known for the manufacture of farm implements, milk products, floorwax, and a wide range of specialized machinery. The principal industries are the Ajax
2592 Manufacturing Company; the Belle City Malleable Company; the J. I. Case Manufacturing Company, manufacturers of tractors and other farm equipment; S. C. Johnson & Sons, manufacturers of floorwax and furniture polishes; the Hamilton-Beach Manufacturing Company, which produces vacuum cleaners; the Horlick Malted Milk Company, manu-

facturers of malted milk products; the Nash-Kelvinator Corporation which I mentioned before as being the producer of Nash automobiles—their automobile plant is in Kenosha but they have a plant in Racine—the Twin Disc Clutch Company,

manufacturers of specialized machinery connections; and the Young Radiator Company.

In addition to the industrial activity carried on in Racine, Racine also conducts considerable business resulting from agriculture in the surrounding areas.

It has large residential districts both within the city and outside the city in residential suburbs.

The population of these residential areas are employed very largely in the industries within and surrounding the city. 2594

South Milwaukee, Wisconsin, receives electric service from Wisconsin Electric Power Company. It is a residential suburb of Milwaukee, located about ten miles south of Milwaukee. Its population is 11,115.

There are a number of industries located in South Milwaukee, the principal one being the plant of the Bucyrus Erie Company, which manufactures heavy excavating equipment and road-building machinery.

Plants of the Line Material Company, Badger Malleable & Manufacturing Company, Midwest Tanning Company, The Rapco Leather Company, and the Wisconsin-Appleton Company, manufacturers of electrical wiring fittings, are located 2595

—1,249—

in South Milwaukee.

A chemical plant of the DuPont Company is located near the city on the south.

The City of Cudahy, located six miles south of Milwaukee on the shore of Lake Michigan, is served by Wisconsin Electric Power Company.

It is largely a suburb of Milwaukee and is an important unit in the Milwaukee industrial area. Large residential dis-

tricts are located in Cudahy, the residents of which are employed generally in Cudahy or South Milwaukee, or in Milwaukee, itself, in the industries located in those cities.

Within the City of Cudahy are located the plants of the Ladish Drop Forge Company, manufacturers of heavy drop forgings; The Sherer Leather Company, producers of leather; Cudahy Brothers Company, operators of large packing plants; and George J. Meyer Manufacturing Company, which manufactures bottling machinery of all types.

2597 Q. What is the population of Cudahy? A. The population of Cudahy is 10,550.

The City of West Allis, with a population of 36,146, is located immediately west and somewhat south of the City of Milwaukee, and is adjacent to Milwaukee.

West Allis is a very highly industrialized community. Its principal industries include a wide variety of machinery —1,250— manufacturing plants, steel fabrication plants and foundries.

Among these are the Allis-Chalmers Manufacturing Company widely known for its manufacture of power generating 2598 equipment, tractors and other heavy machinery; the Fulton Company; The LeRoi Motors Company; Kearney & Trecker Corporation; and Harnischfeger Corporation, manufacturers of heavy cranes and hoisting equipment, very well known among power plant builders; the Federal Malleable Company; the Pressed Steel Tank Company; the Sterling Wheelbarrow Company; Motor Castings Company; and Davis & Thompson Company.

The latter firm specializes in the design and manufacture of unusually specialized machinery for the performance of particular and precise operations in manufacture.

There are many other industries located in West Allis, but those I have named are among the better known ones and the principal ones.

The City of Wauwatosa is located on the west of Milwaukee and adjacent thereto. It has a population of 26,701 and is almost exclusively a residential suburb of Milwaukee. There are no important industries in Wauwatosa, the residents of the city being employed very largely in business and other lines of endeavor in the Milwaukee industrial area.

West Milwaukee is also a suburb of Milwaukee, located 2600
on the southwest part of the city limits of Milwaukee. Diversified industries are located there, including the Krause

—1,251—

Milling Company; the Linde Air Products Company, which produce various types of compressed gasses; The Robert A. Johnston Company, manufacturers of candies, cookies and crackers; The John Graf Company, producers of Graf beverages, including carbonated drinks and malt liquors; the Chain Belt Company, manufacturers of power machinery; the Cream City Boiler Company, manufacturers of steam boilers; and the Milwaukee Metal Spinning Company, which 2601
produces spun metal products.

The population of West Milwaukee is 4,423. Many of the residents of West Milwaukee are employed in the industries in the City of Milwaukee and other suburbs other than that of West Milwaukee, itself.

Shorewood, with a population of 15,085, is a residential suburb located on the shore of Lake Michigan, immediately north of Milwaukee. Electric service there is rendered by Wisconsin Electric Power Company.

There are no major industries in Shorewood, the residents of the village being employed in professions and commerce and other activities in the industrial area as a whole.

The Village of Whitefish Bay, Wisconsin, is located immediately north of Shorewood and adjacent to it. It is also a residential suburb of greater Milwaukee, the residents being employed in the professions and other activities in the general area.

Whitefish Bay has a population of 9,479. —1,252—

Wisconsin Electric Power Company renders electric service in the City of Port Washington, which is situated about twenty-five miles north of Milwaukee on the shore of Lake Michigan.

It is identified by a small area which is cross-hatched to indicate service by Wisconsin Electric Power Company, although the area is completely surrounded on the north, west and south, by the territory served by Wisconsin Gas & Electric Company.

Port Washington is the point at which the Port Washington power plant of Wisconsin Electric Power Company is located.

The city consists very largely of residential areas and is well known in the middle west for its fishing activity. The Smith Brothers operate extensive fisheries on Lake Michigan and Lake Superior, one of which has its headquarters at Port Washington.

There are a few industries located at Port Washington, among which are the factory of the Wisconsin Chair Company, two foundries and a manufacturer of concrete mixing machinery.

2605

Oconomowoc, Wisconsin, is a city located within the territory of Wisconsin Electric Power Company, which is served at wholesale by the company. It is located on the map toward the western end of the territory of Wisconsin Electric Power Company, near the west line of Waukesha County, and about one-third of the distance south from the

—1,253—

north county line.

Oconomowoc operates a municipal electric distribution system and purchases its entire power requirements from 2606
Wisconsin Electric Power Company.

The municipal system in the city serves about 1,800 customers and in 1939 it purchased 4,847,539 kilowatt hours from Wisconsin Electric Power Company.

Oconomowoc has a population of 4,524 but few important industries. Among the industries which are located there are dairy plants, a pea cannery where the—strike that. I was going to give you the name of the peas but it slipped my mind—and the milk condensery of the Carnation Milk Company.

2607

Mr. Hamilton: This is a satisfactory breaking point.

The Examiner: All right. We will recess until 2:00 o'clock.

(Whereupon, at 12:30 o'clock p. m. the hearing recessed until 2:00 o'clock.)

—1,254—

2608 *Edward H. Schmidtman—By Respondents—Direct*

AFTERNOON SESSION

(Whereupon, at 2:00 p.m., September 9, 1940, the hearing reconvened.)

The Examiner: You may proceed.

Whereupon, EDWARD H. SCHMIDTMAN the witness on the stand at the time of recess, resumed the stand, was examined and further testified as follows:

2609 *Direct Examination by Mr. Hamilton (resumed):*

Q. Mr. Schmidtman, you were describing the cities served by Wisconsin Electric Power Company. Had you finished that description? A. No, I hadn't finished. I would like to take up Milwaukee.

Milwaukee is the largest city served by Wisconsin Electric Power Company.

Its population, according to the 1940 preliminary census figures was 598,558.

The city of Milwaukee covers an area of 44.1 square miles —that is, within the corporate limits.

2610 It is located on the shore of Lake Michigan at the junction and mouth of three rivers—the Milwaukee, the Menominee, and the Kinnickinnic.

—1,255—

Q. I wonder if you would speak just a little louder, please. A. Yes.

The mouth of these three rivers really formed the topographic reason for the original settlement of that spot as the city of Milwaukee, and the rivers are now used to quite an extent as harbors and points of entry for lake shipping that comes into the Milwaukee harbor.

2611

There are extensive piers and ferry slips located on these three rivers and on canals dug between them, and altogether they constitute what is considered the inner harbor of the port of Milwaukee.

There are 144,000 dwellings in the city of Milwaukee, of which 42 per cent. are owned by their occupants. Among the cities of the United States, having a population of 500,000 or more, Milwaukee ranks second in the percentage of families owning radios.

It ranks third in the percentage of families owning homes 2612
and fourth in the percentage of families living in individual dwellings.

The people of Milwaukee are very home conscious, as indicated by the high percentage of property ownership and high percentage of families living in individual dwellings rather than in duplexes and apartment buildings.

Milwaukee is served by three large trunk line railroads

—the Chicago & Northwestern, the Chicago, Milwaukee, St. Paul and Pacific, and the Minneapolis, St. Paul & Sault St. Marie—the latter commonly known as the Soo Line. 2613

The city is also served by six bus lines, seven steamship and barge lines, two car ferries, two transcontinental air-lines, and forty truck lines.

Milwaukee is one of the leading industrial centers of the middle west, ranking ninth among the cities of the United States in the value of annual manufactured products.

Normally almost two thousand industrial plants employ approximately 140,000 people and pay them annual wages amounting to more than two million dollars, and produce goods valued at about one billion dollars a year.

2614 Milwaukee is noted for the worldwide use of its products and for the wide diversification of the industries located there.

In order of importance, the leading manufactured products of Milwaukee are:

First, agricultural implements.

Next, motor vehicle bodies and parts.

Meat Packing products.

Malt liquors, including beer and ale.

2615 Electrical machinery, apparatus and supplies.

Malt, which is a product used in the manufacture of malt liquors.

—1,257—

Steel works and rolling mill products.

Cranes, dredging and excavating machinery.

Bakery products.

Hosiery.

Boots and shoes.

Printing and publishing.

Paints, pigments and varnishes.

2616 Stamped and pressed metal products, including enameling, japanning, and lacquering.

The following well-known industries have plants in the city of Milwaukee:

Briggs & Stratton Corporation, which manufactures automobile accessories and small gasoline motors.

Cutler-Hammer, Incorporated, manufacturers of electrical control equipment.

Delta Manufacturing Company, which produces small wood-working machinery for shops and home use.

The Evinrude Motors Division of the Outboard Marine and Manufacturing Company, which manufactures Evinrude outboard boat motors.

The Falk Corporation, which manufactures heavy machinery and gears, pumps, and heavy equipment of that sort.

The Globe Steel Tubes Company, which manufactures seamless steel tubes for use in boilers, industrial plants in general, and for steel pipe lines.

Globe Union, Incorporated, which manufactures the Globe storage battery, and also recently they have gone into 2618

sidelines, such as roller skates, radio parts, ceramic products.

Harley-Davidson Motor Company, which manufactures the Harley-Davidson motorcycle.

Holeproof Hosiery Company, which knits silk hose.

International Harvester Company, manufacturer of farm equipment.

The Milwaukee plant of International Harvester Company manufacturers trucks.

Linde Air Products Company, producers of compressed gases—acetylene and various other gases used in compressed 2619 form.

Miller Brewing Company, manufacturers of Miller High Life beer and ales.

Nash-Kelvinator Corporation, whose Milwaukee plant manufactures bodies for the Nash automobile.

Pabst Brewing Company, manufacturers of beer and ale.

Phoenix Hosiery Company, another plant which knits full-fashioned hose.

Pittsburgh Plate Glass Company, whose paint and varnish division is located—or one of whose paint and varnish divisions is located in Milwaukee.

Joseph Schlitz Brewing Company, manufacturers of beer and ale.

The A. O. Smith Corporation, manufacturers of welded

—1,259—

steel pipe, automobile frames, and other products, from sheet steel and pressed metal.

Square D Corporation, manufacturers of electrical switching equipment.

Swift and Company, a packing concern.

2621 Q. Is there a municipal plant in Milwaukee? A. The city of Milwaukee operates a small steam power generating station at the municipal garbage incinerator plant.

This steam generating station utilizes heat generated in burning the garbage, and the power generated through that operation is used in operating the equipment at the incinerator plant, such as hoisting the garbage for burning it and handling the ashes, and so forth.

The surplus of the output over those requirements is delivered into the system of Wisconsin Electric Power Company as dump electric power.

2622 The generating station of the city is not a public utility and is no part of a public utility, inasmuch as it serves no customers directly.

All of the energy is used either in the incinerator plant or delivered into the system of Wisconsin Electric Power Company.

The generating station has no other outlet for its power. The power generated at that plant is highly variable with

—1,260—

respect to availability. In the winter time the garbage that is delivered to the plant from all over the city contains more

heat than the garbage that is delivered in the summer, because in the summer time the garbage contains large quantities of melon rinds and grapefruit skins and leaves and peelings from fresh vegetables, which are wet and don't burn well, so during that season of the year it is frequently necessary for the city to apply oil—used cylinder oil from filling stations—to the garbage in order to make it burn.

Under those circumstances, of course, you can be sure that the fuel wouldn't produce enough heat to generate any appreciable quantities of steam. most of the heat being consumed in burning the garbage itself. 2624

Q. There is no other electric utility service in the city of Milwaukee? A. No, there is not.

Mr. Hamilton: May this document be marked as Respondents' Exhibit Number 33 for identification?

The Examiner: It may be so marked.

(The document referred to was marked Exhibit 33 for identification.)

By Mr. Hamilton:

Q. Will you explain, Mr. Schmidtman, what Respondents' 2625

Exhibit No. 33 for identification portrays? A. Exhibit No. 33 is a tabulation showing the number of customers at the end of the calendar years, and the total annual sales of electricity during the calendar years from 1910 to 1939, for Wisconsin Electric Power Company; from 1912 to 1939 for Wisconsin Gas & Electric Company, and from 1923 to 1939 for Wisconsin Michigan Power Company.

Q. Has this table been prepared under your supervision? A. Yes, it has.

2626 *Edward H. Schmidtman—By Respondents—Direct*

Q. Have the facts shown been taken from the records of the respective companies indicated? A. They have.

Mr. Hamilton: I offer it in evidence as Respondents' Exhibit No. 33.

Mr. Binford: I would like to ask one or two questions, please.

By Mr. Binford:

Q. The number of customers refers solely to customers
2627 furnished with electric energy? A. Yes, with electric energy only.

Q. The table has no reference in any way to gas service to customers? A. None whatever.

Q. And in each case the figures given are as of the end

of the calendar year indicated? A. The number of customers shown are as of the end of the calendar year, and the kilowatt hours sold are during the calendar year.

Q. During? A. Yes.

Mr. Binford: No objection.

2628

The Examiner: The tabulation is admitted in evidence as Respondents' Exhibit No. 33.

(The document referred to was received in evidence as Respondents' Exhibit No. 33.)

By Mr. Hamilton:

Q. Referring to Exhibit No. 33, Mr. Schmidtman, do the statistics shown include sales by the respective companies to other electric utilities? A. Yes, they do, and that fact is indicated by Note One at the bottom of the exhibit.

Q. More specifically, the table, then, includes sales by Wisconsin Electric Power Company to the other two companies named in the table? A. Yes, the sales shown for Wisconsin Electric Power Company include sales to all electric utilities including Wisconsin Gas & Electric Company and Wisconsin Michigan Power Company.

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Likewise, the figures for Wisconsin Gas & Electric Company include all sales to other electric utilities, including— Wisconsin Gas & Electric Company doesn't sell any energy to 2630 either of the other two companies.

The figures for Wisconsin Michigan Power Company include all sales to other electric utilities, including the sales of that company to Wisconsin Electric Power Company.

Q. Now, the figure shown for the year 1939 as kilowatt hours sold by Wisconsin Gas & Electric Company appears to be a figure somewhat in excess of 170 million kilowatt hours.

Do you have the figures for the sales for that year by Wisconsin Electric Power Company to Wisconsin Gas & Electric Company? A. Yes. During the year 1939 Wisconsin Electric Power Company sold to Wisconsin Gas & Electric Com- 2631 pany 206,189,655 kilowatt hours.

That figure does not appear individually in the tabulation.

Q. But is to be included in the amount sold by Wisconsin Electric Power Company? A. That is correct.

Q. Can you explain the excess of the figure which you have last given over the figure of 170 million plus shown on the table? A. Yes. A portion of the kilowatt hours which

—1,264—

Wisconsin Electric Power Company sells to Wisconsin Gas & Electric Company in every year is used by the latter company in conducting its own operations.

The major portion of that use by Wisconsin Gas & Electric Company is consumed in operating its gas plant at Racine, and that energy is not resold by Wisconsin Gas & Electric Company.

Another portion of the kilowatt hours purchased by Wisconsin Gas & Electric Company is consumed in the form of
2633 losses incurred in distributing the energy which is sold to its customers.

Those two items—that is, the company's own use and the losses in transmission and distribution—account for the difference between the energy sold to Wisconsin Gas & Electric Company and the amount of energy sold by it to its customers.

In addition to the energy which Wisconsin Gas & Electric Company purchases from Wisconsin Electric Power Company, Wisconsin Gas & Electric Company also generates a small amount of energy.

2634 In the year 1939 its generation was less than one per cent of its total energy requirements.

Q. I note from the table that, while the statistics on Wisconsin Electric Power Company are first given for the

year 1910, statistics for the other two companies indicated began at later periods. Will you explain why the later period is used? A. In each case we began the data for the respective companies in the earliest year at which continuous records down to the present time began.

2635

Such records began in 1910 for Wisconsin Electric Power Company, in 1912 for Wisconsin Gas & Electric Company, and in 1923 for Wisconsin Michigan Power Company.

Q. Will you amplify further the information set forth in Note 2 of the table? A. Yes. Note 2 explains that prior to the year 1938 the kilowatt hours consumed by the transportation operations of the Milwaukee Electric Railway & Light Company, which was the name of Wisconsin Electric Power Company prior to October 1938——

2636

The Witness: Will you read that please?

(Whereupon the last answer was read back by the Reporter.)

A. (Continuing.) —were treated as energy transferred from the Electric Department to the Transportation Department of the Milwaukee Electric Railway & Light Company.

Being treated as a transfer of energy from one department to another, these kilowatt hours were not included in the kilowatt hours sold as shown by this tabulation before 1938. However, the energy consumed, at the beginning of 1938, by the Transportation Department was treated, for

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—1,266—

accounting purposes, as a sale, and, from that time, such energy has been included with the sales shown on this table.

Q. For the full years 1938 and 1939? A. For the full years 1938 and 1939.

Q. The table indicates a substantial growth in the number of customers and kilowatt hours sold. Has that growth been due entirely to the development of the facilities of the respective companies or has it been due to some other cause

2638 —in part, at least? A. The growth shown here is due in part to acquisitions of small electric utility systems operating in the vicinity of the territories served by each of these three companies. In the case of Wisconsin Electric Power Company, several small systems were acquired during the period covered by these statistics.

Those acquisitions represent a small part of the extent of service rendered by the Company, and the last one was made in 1930, when Wisconsin Electric Power Company
2639 acquired the municipal electric distribution system in the city of Port Washington.

Since the year 1930, Wisconsin Electric Power Company has made no such acquisitions and all of the change in load since that time has come about through development of the territory served by the Company and through more extensive development of the service needs within its area.

—1,267—

In the case of Wisconsin Gas & Electric Company, it is likewise true that a number of acquisitions were made during the period covered by the tabulation.

2640 The last of such acquisitions was made in 1932, when Wisconsin Gas & Electric Company purchased the properties of the Wisconsin Public Utilities Company operating in and around the city of West Bend and the Village of Barton.

Since 1932 Wisconsin Gas & Electric Company has acquired no electric properties, and the growth in its number of customers and volume of sales has come about as a result of the Company's efforts in increasing the use of its service within the territory served.

Wisconsin Michigan Power Company has acquired small electric systems during the period shown. The last one

2641

acquired was a small distribution system in the community of Trout Creek in Michigan. That community is not shown on Exhibit 32.

The Trout Creek system was acquired in 1929 and since that year no further acquisitions have been made by Wisconsin Michigan Power Company.

The growth in number of customers and kilowatt hours sold since that time has also been a result of the Company's development of service within its area.

2642

Q. I believe you indicated that, with respect to Wisconsin

—1,268—

Electric Power Company there were no continuous records of the number of customers and kilowatt hours sold prior to the year 1910.

Does the Company have any record for any year prior to that time? A. Yes. One of the officers of the Company, who has been with the Company and its predecessors a number of years, has a memorandum record in one of the old volumes of the Company's accounts, which indicates that in 1900 the Milwaukee system served 1,451 customers, who consumed about five million kilowatt hours in that year.

2643

From the period 1900 to 1910, as I have explained, we have no continuous records and the record for 1900 is a memorandum record in one of the older books of the Company.

From that beginning the service of Wisconsin Electric Power Company has increased to more than 250,000 customers and the sales have increased to nearly 1,200,000,000 kilowatt hours.

2644 *Edward H. Schmidtman—By Respondents—Direct*

Mr. Hamilton: May this document be marked as Respondents' Exhibit No. 34 for identification?

The Examiner: Yes.

(The document referred to was marked Respondents' Exhibit No. 34 for identification.)

By Mr. Hamilton:

Q. I will ask you later, Mr. Schmidtman, to explain the

—1,269—

2645 caption headings shown on Exhibit No. 34. Would you, at this time, explain what Exhibit No. 34 purports to portray? A. Exhibit No. 34 is a tabulation showing the number of customers at the end of the year 1939, and the kilowatt hours sold during the year 1939 for each of the three companies in the Wisconsin Michigan group, namely Wisconsin Electric Power Company, Wisconsin Gas & Electric Company, and Wisconsin Michigan Power Company, segregated according to the service classification indicated in the column headings.

Q. This table has been prepared under your supervision?

2646 A. Yes, it was.

Q. Were the facts shown similarly taken from the records of the respective companies indicated? A. Yes.

Mr. Hamilton: I offer it in evidence as Respondents' Exhibit No. 34.

Mr. Binford: I would like to ask a question or two in regard to this exhibit.

By Mr. Binford:

Q. Will you please explain the distinction between small commercial and industrial and large commercial and industrial? A. Yes.

Q. They are shown in separate columns on this table?

—1,270—

A. Yes.

I will explain the large commercial and industrial first. The large commercial and industrial group of customers include commercial customers who take service at secondary voltage—that is, below 3800 volts—and who contract to pay for a minimum monthly demand of fifty kilowatts.

The industrial customers included in this group are those customers which are served at primary voltages of 3800 volts, 13,200 volts, or 26,400 volts, who furnish their own sub-stations and who contract for a minimum monthly demand of 100 kilowatts. 2648

The small commercial and industrial customers are the commercial customers and industrial customers who do not qualify under the requirements of the large group.

—1,271—

Q. And there is a further column headed "Other Electric Utilities." Will you please explain what that caption means? A. Yes. That group includes all electric utility systems to which the respective companies shown in the first column sell electrical energy at wholesale rates for resale by those electric utilities. 2649

Included in that caption would be the utilities I discussed this morning as operating in the various municipalities. It also includes, in the case of Wisconsin Electric Power Company—it includes Wisconsin Gas & Electric Company and Wisconsin Michigan Power Company inasmuch as Wisconsin Electric Power Company sells energy to both of those.

2650 *Edward H. Schmidtman—By Respondents—Direct*

In the case of Wisconsin Michigan Power Company, it includes Wisconsin Electric Power Company, because the former sells electricity to the latter.

Mr. Binford: No objection.

The Examiner: Respondents' Exhibit No. 34 for identification is now admitted in evidence.

(The document referred to was received in evidence as Respondents' Exhibit No. 34.)

2651 *By Mr. Hamilton:*

Q. Will you explain further, Mr. Schmidtman, the caption headings shown in the respective columns in addition to

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your statement as to three of the columns? A. The data included in the column with the caption heading "Residential" include customers and sales under the regular residential rate of the company for general residential use as well as the customers and sales under the company's residential water heating rates.

2652 In every instance in which we sell residential water heating service, we also sell residential general service. There has been no duplication in the number of customers due to that overlapping of service.

Such customers have been numbered only once although their total kilowatt hour sales have been included under the sales.

The caption "Rural" includes customers taking service under our regular rural service rate, as well as those taking service under the rural water heating rate and the sales

under that caption include the sales under both of those rate schedules.

The small commercial and industrial, I believe I have explained satisfactorily, and also the large commercial and industrial customers. However, I might add that under the small commercial and industrial group we include flat rate commercial lighting, metered commercial lighting, combined light and power, breakdown and demand power, commercial power, optional power, battery charging, cooking and refrigeration, and optional cooking and heating. 2654

—1,273—

The next group which is headed "Other Sales to Public Authorities" includes our sales under the municipal primary rate to Milwaukee City, the municipal primary rate for park lighting, the municipal secondary rate for playgrounds, the municipal secondary rate for Milwaukee City, the municipal primary rate for other cities, and the municipal secondary rate for other cities.

Under "Other Electrical Utilities" we have included all sales to electric public utilities for resale. One group under that caption is the affiiated companies and another is the 2655 non-affiliated systems.

In the last column preceding the total, headed "Railways for Motive Power" we have included our sales to all electric railway systems to which the companies sell electrical power.

Q. Will you state what those railways are? A. I beg your pardon.

Q. Will you state what those railways are? A. Yes. In the case of Wisconsin Electric Power Company, the three customers are the Milwaukee Electric Railway and Transport Company which is the subsidiary of Wisconsin Electric

Power Company, Wisconsin Gas & Electric Company, which operates a small transportation system in the City of Kenosha and the Chicago, Milwaukee and North Shore Railway which operates an electric interurban railway line between Chicago and Milwaukee.

—1.275—

In the case of Wisconsin Gas & Electric Company, the one customer is the Milwaukee Electric Railway and Transport Company.

2657 Q. You have indicated two of the customers falling under the caption "Other Electric Utilities," Wisconsin Gas & Electric Company and Wisconsin Michigan Power Company, Wisconsin Electric Power Company. What are the other two covered by that caption? A. Sales to other electric utilities you mean?

Q. Right. A. The other two are the City of Oconomowoc, to which the company sells energy wholesale for resale and Wisconsin Power & Light Company with which Wisconsin Gas & Electric Company has an interconnection for

2658 the interchange of emergency service.

Q. Other than sales to municipal electric companies, is there, in the case of Wisconsin Gas & Electric Company, any other electric utility comprehended by the caption there? In other words, are the seven customers listed solely municipal electric utilities? A. I will check that. Yes, they are.

Q. And I believe you have indicated that the figures shown for Wisconsin Michigan Power Company include sales by it to Wisconsin Electric Power Company? A. Yes, I have. That is the case.

—1,276—

Q. There appear on the table two items captioned "Adjustment," and each bearing an asterisk, and there also appears an asterisk footnote. Will you explain further the significance and necessity for the asterisk footnote? A. As I have pointed out, this tabulation includes sales to other electric utilities. Included in the sales by Wisconsin Electric Power Company to other electric utilities are its sales to Wisconsin Gas & Electric Company.

That electric energy is then resold by Wisconsin Gas & Electric Company to its customers. 2660

Now, in order to prevent a duplication of energy—that is, in order to keep those same kilowatt hours from appearing twice in the tabulation, it is necessary to subtract them from the total sales for the group.

The same thing is true with respect to energy sold by Wisconsin Electric Power Company to Wisconsin Michigan Power Company and by Wisconsin Michigan Power Company to Wisconsin Electric Power Company.

Those three sales constitute the three customers shown in the adjustment under "Other Electric Utility Customers" and the 259,968,493 kilowatt hours adjustment under that 2661
caption represent the kilowatt hours involved in this interchange.

Q. Is there a substantial degree of diversity in the service requirements of the customers of the respective companies?

— —1,277—

A. Yes, there is. The service requirements of the customers served by the three companies vary all the way between two widely separated extremes. The average small customer or rather the typical smallest customer of any of the companies would be a residential consumer using little or no energy in a month.

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We have, as all electric utility systems have, a number of so-called minimum bill customers. Our bill for such customers is 60 cents a monthly net. That is a service charge which is made against the customer whether he consumes any kilowatt hours or not and it is intended to cover the fixed components of the cost of rendering electric service.

From a customer of that kind the service requirements range up to the requirements of huge industries that consume several million kilowatt hours a month, and the bills
2663 will range from the minimum of 60 cents to well up into tens of thousands of dollars.

To give an indication of the distribution of our customers over this wide range of service requirements, I can say that 80 per cent of the customers of Wisconsin Electric Power Company are residential customers. Slightly over 6 per cent are rural customers, 12 per cent are small commercial and industrial—I am speaking now with respect to number of customers—and the remaining one odd per cent of our cus-

—1,278—

tomers are made up of large commercial and industrial, street
2664 and highway lighting, other public authorities, other electric utilities, and electric railways.

Now, with respect to the kilowatt hours sold to these various classes of customers, the residential consumers take about 22 per cent of our total sales.

The rural customers take about 2½ per cent. The small commercial and industrial customers consume about 14 per cent. The large commercial and industrial consume more than 45 per cent. Street and highway lighting customers take nearly 3 per cent. Other public authorities nearly 2 per

cent; other electric utilities a little over 3 per cent; and electric railways about 7½ per cent.

Q. Are these percentages which you have given applicable in the case of Wisconsin Electric Power Company or are they on the basis of three company figures? A. They are applicable to Wisconsin Electric Power Company only.

Q. You were speaking of the diversification of use among various customers. Can you amplify that further? A. Yes, I can. The service requirements of electrical customers vary from those of consumers in small apartments or one-room 2666
cottages, many of whom are our minimum bill customers, to those of people who live in all-electric homes, a large number of which we serve.

—1,279—

An all-electric home will include the usual lighting and electrical appliances as well as electric range, an electric water heater, an electric air-conditioning system. Such customers will consume from 6000 to twelve or fifteen thousand kilowatt hours a year each—one residential customer. The use of electricity in our rural areas also varies over quite a wide range. 2667

Some of our farm customers use electric service for residential use only. Some of them expand that use to include yard and barn lighting, and others use it for a still wider variety of purposes.

Among these are the operation of milking machines, pumping water, cutting and elevating silage, heating seed beds, and irradiating cattle and chickens, and numerous other purposes.

Some of the other purposes would be operating an electric fence. An electric fence consumes very little electrical

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energy but it is one of the ways in which the modern farmers in our territories are making use of our service. An electric fence is a rather ingenious device by which a cow or any other animal that comes too close to the fence will receive a pulsating shock. It isn't harmful but it is very effective.

Electricity is used by farmers in heating seed beds—more generally, however, by operators of greenhouses and individuals who raise plants for sale for planting in gardens

2669 —1,280—

and vegetable beds.

These seed beds are heated by cables buried in the soil which maintain a higher temperature in the soil and produce quicker and much stronger germination of the seeds, resulting in an earlier start and more hardy plants.

Electricity is used in sun lamps for subjecting cattle and flocks of chickens to ultra-violet rays. It has been found that the use of sun lamp irradiation on cattle has resulted in a marked reduction in bacterial content of the milk, a greater resistance on the part of cattle to common diseases and a

2670 much lower mortality in calves. It has been used on test flocks of chickens and a wide range of tests indicates that the productivity of the chickens in number and weight of eggs laid can be increased by as much as 20 per cent in a flock that is irradiated in comparison with one that isn't.

An outstanding example of extensive use of electricity on the farm in the territories served by the Wisconsin-Michigan group is found in the case of the Brook Hill Dairy Farm which is served by Wisconsin Electric Power Company. That farm consumes well over a hundred thousand kilowatt hours a year.

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It comprises a total of nine milk-producing farms, all operating under one joint management. The herd that they

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have on those farms numbers a little over eight hundred cows. The cows aren't all yielding at the same time but they are all active members of the herd and when a cow goes dry she is transferred to what they call the dry farm and is kept there until she again begins giving milk and then she is brought back to one of the producing farms.

2672

Three of these farms produce certified milk. No—two of them produce certified milk. And the Brook Hill Farm is one of the three dairy farms in the entire state of Wisconsin which are allowed to produce certified milk. Certified milk is not pasteurized; it is marketed raw, and in order for farms to have the permission of health authorities to market such milk, they must answer to very rigid requirements of sanitation.

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The other two farms in Wisconsin which produce certified milk are located in the immediate vicinity of the Brook Hill Farm and are both served by Wisconsin Electric Power Company.

Now, the connection of certified milk to electric service may seem farfetched except when we consider that dairy farm sanitation is directly related to the availability of water and refrigeration, and both the water and the refrigeration are furnished electrically on these farms.

Mr. Hamilton: Off the record.

(Discussion off the record.)

—1,282—

Mr. Hamilton: Back on the record.

By Mr. Hamilton:

Q. You have indicated that Wisconsin Michigan serves a substantial rural territory. Is that also true of Wisconsin Electric Power Company and Wisconsin Gas & Electric Company? A. Yes, that is true. Particularly of Wisconsin Gas & Electric Company. Wisconsin Electric Power Company does serve a very highly developed agricultural area in Waukesha County—one of the richest agricultural counties in the State of Wisconsin.

Wisconsin Gas & Electric Company, serving the rim of territory lying all the way around that of Wisconsin Electric Power Company, naturally reaches into more of a rural area than Wisconsin Electric Power does in serving the industrial section along the lake.

I have mentioned the milk condenseries and processing plants and the production of butter and cheese in the communities served by Wisconsin Gas & Electric Company. Those industries bear out the presence of very active dairying territory in the entire district served by the company. Wisconsin is one of the foremost dairying states of the Union and our territories are among the best of the dairying districts in the State.

Q. What is the largest customer of Wisconsin Electric

Power Company? A. The customer that takes the largest amount of energy from Wisconsin Electric Power Company is Wisconsin Gas & Electric Company. Due to the diversification of loads served by Wisconsin Gas & Electric Company the character of its demands upon the system of Wisconsin Electric Power Company with respect to hour of

the day and seasons of the year, is very much like the demands of Wisconsin Electric Power Company's own direct loads, and because of that diversity or diversification, the loads fit in very well, being of much the same character.

In 1939, Wisconsin Michigan Power Company purchased —I am sorry—Wisconsin Gas & Electric Company purchased 206,189,655 kilowatt hours from Wisconsin Electric Power Company and imposed a maximum demand of 49,133 kilowatts. Of those total sales, 198,546,493 kilowatt hours were 2678
for resale by Wisconsin Gas & Electric Company to its own customers, the remainder—that is, the difference—being used by Wisconsin Gas & Electric Company in carrying out its own operations.

Q. What is the largest ultimate consumer of Wisconsin Electric Power Company? A. The A. O. Smith Corporation is the largest ultimate consumer of Wisconsin Electric Power Company.

Q. You are speaking outside of the system, are you not?

—1,284—

Isn't the Transport Company a large consumer? A. Yes, I 2679
am sorry. I was thinking of private customer. The Milwaukee Electric Railway and Transport Company is the largest ultimate consumer on the system of Wisconsin Electric Power Company. That is the transportation subsidiary of Wisconsin Electric Power Company.

Q. Are all of its requirements purchased from the Wisconsin Electric Power Company? A. Yes, they are.

Q. Of its electrical requirements? A. All of their electrical requirements. Prior to October of 1938, as I have previously testified, the transportation operations were carried on as a part of Wisconsin Electric Power Company whose

2680 name was then the Milwaukee Electric Railway & Light Company.

The power which is purchased by Milwaukee Electric Railway and Transport Company is all 600-volt direct current energy which is used for motive power in operating the street cars, trolley busses and interurban railway cars, and some alternating current service used in its shops and in lighting its office and storeroom buildings.

Delivery of 600-volt direct current energy is made at
2681 thirty different railway sub-stations which are owned and operated by Wisconsin Electric Power Company. These sub-stations are located all over the area which is served by the

—1,285—

Milwaukee Electric Railway and Transport Company.

Q. Could you indicate generally what that area served with transportation service is? A. Yes. The Milwaukee Electric Railway and Transport Company operates a street railway system with auxiliary gasoline busses in the City of Milwaukee and its immediate suburbs.

In the same area it also operates trackless trolley lines in
2682 serving the metropolitan area. It also operates an interurban electric railway system reaching north to Port Washington, west to Watertown and south to Kenosha.

A shorter branch of the interurban line runs as far south as Hales Corners on the western part of the Milwaukee County.

Q. The points of delivery to the Transport Company are not confined to Milwaukee proper then, are they? A. No, they are not. They are not. As I have just stated, the interurban system reaches out into neighboring cities.

—1,286—

By Mr. Hamilton:

Q. They deliver at the neighboring cities as well? A. Yes, delivery of energy to the Transport Company is made at a number of points, many of which are located considerable distances from Milwaukee.

Delivery is made in those instances through railway substations. Some energy is delivered directly to the Transport Company within the City of Milwaukee and is generated there, but that represents a minor portion of the total consumption. Most of the energy delivered to the Transport 2684
Company is energy that has been converted from alternating current to direct current for use in the trolley system.

Q. What is the approximate consumption of current by the Transport Company which it purchases from Wisconsin Electric Power? A. That varies somewhat from year to year but normally ranges between ninety million and one hundred million kwh per year, at demands running up to 42,000 kilowatts.

Q. Can you indicate the extent of the demand placed on Wisconsin Electric Power Company system by industrial users in the territory served? 2685
A. The industrial customers of Wisconsin Electric Power Company who, as I have explained, take their service at primary voltage, constitute only two-tenths of 1 per cent. of the number of customers served, but their consumption amounts to 45½ per cent. of the total

by the company.

Q. Your figure of 45 per cent., is that expressed in terms of kilowatt hours? A. Yes, 45½ per cent. of the kilowatt hours sold by the company, are sold to the industrial customers.

This class includes 230 consumers and in 1939 those consumers purchased nearly 360,000,000 kilowatt hours. They represent a very wide diversification of industry, also. Altogether there are more than forty different classes of industry represented in that group, many customers falling in each of the several classes.

The largest of these groups are automotive specialties, fifteen customers; bakeries, seven; dairies and dairy products, eight; electrical equipment manufacturing, eleven; iron
2687 and other metal foundries, twenty; electric steel foundries, eight; grain elevators and malting manufacturers, eight; ice manufacturing, ten; heavy machinery manufacturing, ten; light machinery manufacturing, eight; steel fabrication, fourteen; and tanning, eleven.

The other one hundred-odd customers represent more than thirty different types and there are smaller numbers in each of the various groups.

Now, the character of our industrial service is generally indicated by this array of industry. According to data published by the Milwaukee Association of Commerce, the Mil-
2688 waukee industrial area, including Milwaukee, Racine and

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Kenosha, consumes more steel—consumes, not produces—more steel than any other similar area in the United States.

It leads in the country in the production of heavy pumping machinery, hydro-electric generating equipment, large excavators.

Milwaukee, itself, leads the country in production of silk hose. The tanneries that are located in the City of Milwaukee constitute one of the major industries. One of the tanneries there, Gallun & Sons Company, produces a type of leather

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that is produced nowhere else other than in Norway. It is called a Norwegian calf and is a vegetable tanned leather, a choice leather.

I don't know why it is that the tanneries have located so largely in the Milwaukee area, but they are there and they represent one of the major classes of the industry served by the company.

Possibly, it is related to the dairying industry and the meat-packing industry, resulting in the production of hides for tanning.

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Q. Does the Wisconsin Electric Power maintain detailed data on industrial users? A. Yes, they do. We make a practice—speaking of the Wisconsin Electric Power Company—of maintaining a running record of the demand and energy consumption of the thirty largest industrial customers

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served by the Wisconsin Electric Power Company.

These thirty customers represent a wide range of type of industry and we have learned that statistics on their requirements furnish a very good barometer of industrial activity in the Milwaukee area.

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We have kept this record for a number of years and use it to a considerable extent in framing load estimates, making budgets and other estimates which are influenced by anticipated industrial activity in the territory.

Now, we also keep similar records on the consumption and demand of the A. O. Smith Corporation, which is the largest single private customer served by Wisconsin Electric Power Company. This customer is so much larger with respect to power requirements than any of the other thirty that we find it necessary to hold it out separately from the

2692 *Edward H. Schmidtman—By Respondents—Direct*

group because of the heavy effect it has on the averages, but we nevertheless maintain those records and watch them carefully in connection with our anticipated industrial activity.

These thirty-one customers are all primary customers; that is, they take service at the primary voltages of 3810, or 13,200, or 26,400 volts. They own and operate their own step-down sub-stations.

The thirty-one customers have sub-stations with a total capacity of over 130,000 kva. Their demands on the system,

2693 —1,290—

of course, are not coincident. That is, they don't all reach their maximum values at the same time, but the total non-coincident maximum demands of these thirty-one customers was 65,000 kilowatts in 1939 and the combined consumption of these thirty-one customers was over 201,000,000 kilowatt hours.

You will observe that this quantity of energy is well over one-half of the 360,000,000 taken by the 230 industrial customers, and it is more than one-fifth of the total sales of

2694 Wisconsin Electric Power Company to all of its customers, so we feel that in taking these thirty-one customers as a barometer, we are using a very substantial and most representative sample of our industrial service.

Q. When you say that that sale represents more than one-fifth of total sales, don't you mean total sales to ultimate consumers, rather than total kilowatt hours sold? A. Yes.

Q. You are distinguishing in that instance—— A. (Interposing) Yes; one-fifth total sales to ultimate consumers. That is right. I didn't say that, but I should have.

Q. You spoke of the A. O. Smith Corporation. Does that demand upon the system create peculiar service problems? A. The A. O. Smith Corporation does make some very heavy

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demands upon the system of the Wisconsin Electric Power Company and in meeting the requirements of that customer, the company has been required to install special facilities for carrying service to the customer's sub-station.

The A. O. Smith Corporation uses electricity for operating presses and cold process machines of all descriptions. 2696 The plant obtained some fame a few years ago because of its automatic automobile frame plant.

It had an assembly line arrangement which would turn out automobile frames with a minimum of manual labor. The presses would take the sheets which had been previously cut in the proper shape and would press them cold into the channels and the braces that were required in making the frames. Those would be passed on by mechanical conveyors and picked up automatically by the machine as the elements of the frame went through and the frame would gradually take shape. 2697

Automatic machines would place the rivets and rivet them over and the frame would come off at the end completely assembled. Very little manual work was required.

Up to fourteen years ago, the A. O. Smith Corporation generated a portion of its own power requirements and purchased the remainder from the company. Since that time, however, the customer has purchased all of its energy from Wisconsin Electric Power Company.

The principal product of that customer is, at the present

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2698 time, welded steel pipe of various diameters.

This pipe is used in building pipe lines, oil pipe lines, gas transmission lines and is also used quite extensively for oil well casings.

Their plant also produces stills of various sizes for use in distilleries and chemical plants, and other plants that have use for equipment of that kind. They also make welded steel tanks, one of the special types of which is a glass-lined tank which they make for chemical plants.

2699 Wisconsin Electric Power Company delivers service to the A. O. Smith Corporation at 26,400 volts over three circuits which were built particularly for that service. These circuits receive their power from the Granville Sub-Station which is one of the major sub-stations in the company's system and serves the industrial loads in the northern and western portion of the Milwaukee metropolitan area.

Q. Are there other large customers whose demands place unusual requirements on the company's service? A. Yes, there are. One of them that is outstanding for that reason is the Bucyrus-Erie Company. This customer manufactures

2700 excavators, steam shovels, drag lines, cranes, dredges, tower excavators, of all types.

An interesting comparison can be made to indicate the range of sizes of excavators made in that plant by pointing out that at one time they had under construction there, two

excavators, one with a capacity of ⅜ of a cubic yard, and one with a capacity of thirty cubic yards.

Electricity is used by the Bucyrus-Erie Company in a number of ways. It is used to operate electric, steel and brass

furnaces for heat-treating, for lighting purposes, of course, and for general power use. 2701

Among the power uses are the handling of the raw materials and their products in various stages of completion, the cleaning of castings, which is done by air and water under pressure, various machining operations, arc welding, and the operation of the machine shop and other general purposes.

The steel melting furnace is the phase of their business that causes unusual service requirements to fall on the system of the Wisconsin Electric Power Company. The loads 2702
imposed by that furnace are very highly intermittent during the melting period.

The furnace has a six-ton capacity and it operates by means of electrodes, controlled by reversing motors. The electrodes are three carbon poles which are forced down into the furnace after the furnace has been filled with the steel that is going to be melted, usually scrap. The moment those electrodes make contact with the steel, the steel short circuits them and a tremendous current flows.

The reversing motors, one of which is on each of the electrodes, will immediately withdraw the electrode in order to 2703

hold the current within the set range, but for the instant the current is tremendous.

It is almost a dead short circuit across the system and the ammeter that measures those currents kicks so violently over against the peg that it is sometimes a marvel that the hand doesn't break off.

It is only instantaneous, however, and then comes back as soon as the reversing motor operates.

2704 Now, we do not bill the customer for those extremely high momentary demands, because the customer's demands on the system are measured through a watt meter which indicates the average demand during each successive fifteen-minute period. Although we don't bill the customer for those instantaneous demands, we still must maintain facilities capable of carrying them and so we have circuits of high capacity and the customer has a sub-station of high capacity, sufficient to carry those instantaneous, high demands with-
2705 out throwing something out of operation.

This customer purchases energy from the company at 13,200 volts which it steps down through its own sub-station and it generates a portion of its energy requirements.

Q. Can you mention a few of the other large users whose services also impose unusual requirements? A. Yes, one of the best known of our customers that has unusual service requirements is the Joseph Schlitz Brewing Company. This

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customer manufactures "The Beer that Made Milwaukee Famous", according to their advertisements.

2706 The Schlitz Company operates one of the oldest and largest breweries in the United States. They carry out in that plant all of the stages in the manufacture of beer and ale, including the processing of the malt.

That isn't true of all breweries. Many of the breweries served by the Wisconsin Electric Power Company and the other companies of the group, in fact, buy their malt already processed from malt manufacturing plants, a number of which are served by Wisconsin Electric Power Company.

The Schlitz Company has maintained the same mother yeast plant in its brewery that it had before prohibition

2707

came into effect. They maintained the proper temperature and provided the proper feeding according to the plant chemist, to keep that plant alive and active, and they are still using the yeast from that same plant that they were using before prohibition came into effect.

The power requirements of the Schlitz Company are remarkably steady and continuous. A large amount of the energy which they purchase from Wisconsin Electric Power Company is used in operating refrigerating equipment on which they have a very heavy load.

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Electricity is also used in various pumping operations and in the operation of their large kettles and to some ex-

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tent in the bottling and barrelling works.

The continuity of service is very important to the Schlitz people because they must maintain careful control of temperatures and timing of operatings in order not to produce a product of variable characteristics.

Flavor is an extremely important thing and timing and temperature are quite important in producing the constant flavor of their product.

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Before prohibition, the Schlitz Company generated all of the energy consumed in its operations. After the repeal of the prohibition law, the Schlitz Company began producing regular beer again and found their generating equipment inadequate, so they shut it down and are now purchasing all their electric power requirements from Wisconsin Electric Power Company.

They do still operate a boiler plant which furnishes some steam for processing and furnishes steam for operating

direct driven air compressors which they use in some of their refrigeration operations.

The Examiner: We will have a short recess.

(Whereupon a short recess was taken.)

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(Whereupon, after a brief recess the hearing resumed.)

2711 *By Mr. Hamilton:*

Q. What is the largest electric customer of Wisconsin Gas & Electric Company? A. The American Brass Company, located at Kenosha, is the largest customer served by Wisconsin Gas & Electric. This plant is a unit of the Anaconda Wire & Cable Company. It produces copper wire, copper tubing, and also manufactures a wide variety of copper and brass fittings. They utilize electricity in furnaces and many other heating operations as well as for a wide range of general power use and lighting.

2712 Q. Is copper mined in Wisconsin? A. No, it is not. Copper is mined in upper Michigan, outside the territory of Wisconsin Michigan Power Company. The metals are brought in and are worked into the finished product in the mill at Kenosha.

Q. And what is the largest electric customer of the Wisconsin Michigan Power Company. A. The largest customer served by the Wisconsin Michigan Power Company is the Kimberly-Clarke Corporation which I mentioned this morning. That company operates four mills in the Fox River Valley in the vicinity of Appleton and one mill on the Menominee River at Niagara, Wisconsin. The four mills on the

Fox River use water power from the Fox River as well as steam generated in their own plants and in the case of two of

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the plants they generate all of the power required in their operations. In the other two plants the power requirements are met partly by generation from water power and partly by purchases from Wisconsin Michigan Power Company. In the case of the latter two plants the sales of Wisconsin Michigan Power Company to the customer are very heavy.

Kimberly Clarke Corporation is installing and buying 2714 machinery at the present time for a new product, the identity of which they have not disclosed, but it will be some new and, it is anticipated, unique application of the use of wood fibres to some sore of paper product.

In connection with that expansion they are providing a new substation with a capacity of 4,000 k. v. a. through which they expect to take power from the Wisconsin Power Company for the new operations.

The hydroelectric plant that is located at Niagara uses water power from the Menominee River as I have previously explained. In 1938 the Wisconsin Michigan Power Com- 2715 pany entered into a contract with Kimberly Clarke Corporation covering the interchange of power between the customer and the company at Niagara. In carrying on its paper mill operations at that point Kimberly Clarke need a constant supply of electric power, more constant than that furnished by the Menominee River through its hydroelectric units, so it was faced with the necessity of purchasing additional energy or of installing additional generating capacity of its

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own.

Consideration was given to the installation of a steam plant. Inasmuch as paper mills use steam in their paper processing, many of them have found it economical to first use the steam to generate electricity and then take it from the generating unit and use it for heating purposes. Instead of doing that, however, Kimberly Clarke entered into an agreement with the Wisconsin Power Company by which energy is now interchanged between the customer and the company.

2717 During the seasons when the load is inadequate Wisconsin Michigan Power Company furnishes energy. During the seasons when there is surplus power available it is delivered into the system of the Wisconsin Michigan Power Company.

An interesting provision of that contract, aside from the furnishing of firm power by Wisconsin Michigan Power Company and the furnishing of surplus hydroelectric power, is a provision which specifies that at such times of the year as Kimberly Clarke Corporation can do so it will deliver hydroelectric energy into the system of Wisconsin Michigan
2718 Power Company between the hours of 7:00 a. m., and 7:00 p. m., and Wisconsin Michigan Power Company will return similar or equal amounts of energy during the succeeding period of 7:00 p. m. to 7:00 a. m.

The reason for that arrangement is that it furnishes Wisconsin Michigan Power Company a source of additional energy during the daytime hours when the loads on its system are higher than they are during the night, and also

enables Wisconsin Michigan Power to make up and repay for that energy during the night when its own loads are

lower. The arrangement is entirely for the benefit of Wisconsin Michigan Power Company and does not operate to the detriment of the customer because the customer is able to carry on its operations and perform this interchange of energy at the same time.

This interchange, of course, does not occur during those times of the year when the customer is in need of firm power from the company, or when it is delivering surplus hydroelectric energy to the company.

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The Examiner: Does the company get substantial amounts of energy through that interconnection and does it rely on it?

The Witness: No, it does not rely on it and the energy which the company receives through arrangements of this kind is surplus hydroelectric energy for the most part and must be taken into the system of the company at the time when Wisconsin Michigan Power Company already has more energy of that kind than it needs.

2721

The reason that Wisconsin Michigan Power Company is able to accommodate these customers, of which there are several delivering surplus energy into the company system, is that the systems are interconnected through to Appleton where the energy can be consumed, and on through to Milwaukee where there is still a larger market for those quantities of surplus hydroelectric power.

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If Wisconsin Michigan Power Company were operating alone, without interconnection to the south, its

2722 ability to absorb such quantities of surplus hydro-electric power would be greatly limited because it has such power in large quantities from its own plants at the same time that it is available from these interconnected plants.

Do you want the figures on it?

The Examiner: That answers my question.

The Witness: All right.

2723 *By Mr. Hamilton:*

Q. Is there anything unusual about the operation of these paper mills in terms of demands placed on the system requirements? A. It is very important that the power supply to a paper mill should be absolutely dependable. It is a difficult task to start a paper machine and it is very important after it is started that it be kept in operation until the run is finished.

Q. Do they operate on a 24-hour a day basis? A. Yes, they do. Most of the mills in the territory served by these companies, and I presume elsewhere, operate on a 24-hour basis as long as they have market for their output. It is considered a minor tragedy if something should happen to interrupt the operation of a paper machine while it is producing paper. The machines are very long and very complicated, and if a sheet is broken it ties up operations for sometime before it can be threaded through and started

2724 —1,302—

again.

For that reason the supply of uninterrupted service to paper mills is very important and as I will point out in sub-

sequent testimony, Wisconsin Michigan Power Company considers its obligation to the paper mills in the vicinity of Appleton so great that although it may be able to carry the entire load in the Appleton area by means of power delivered from the hydro-electric plants in the north, it still operates the Appleton steam plant as spinning reserve to pick up that load on a moment's notice if anything should happen to interrupt the performance of the transmission line.

The Examiner: That is an automatic arrangement? 2726

The Witness: Yes, it is. The plant is floating on the system.

By Mr. Hamilton:

Q. Is it an expensive operation to start these mills going? A. Yes, it is. It takes time and once a mill is started they continue operating as long as they can. An interruption in service to a paper mill would be expensive.

Q. Are there advantages arising out of the load diversification in the systems of the three companies? A. Yes, 2727 there are. There are substantial advantages. May I return for a moment to the northern territory? I would like to say something about the iron mines that are served there. Wisconsin Michigan Power Company serves a large number

of iron mines operating in the vicinity of Iron Mountain, Crystal Falls and Iron River. I don't know just how many mines up there are operating now. I do know, however, that there is much greater activity among them now than

2728 there has been in recent years. There is a much higher demand for iron and steel products. These mines are unusual with respect to the service requirements they place on the electric system serving them. They use tremendous quantities of power.

The principal use of power in the mines in the territory served by Wisconsin Michigan Power Company is that of pumping water to keep the shafts dry so the crews can work. These mines go down to depths approaching 2,000 feet and
2729 immense quantities of ground water flow into the shafts and tunnels and that water must be pumped out or it would quickly flood the workings.

Possibly the heaviest load that is carried by electricity is that of compressing air for operating machinery used in doing the actual mining operations, that is the drills for drilling the holes to place the blasts are operated with air. The cars which pull the ore away from the face after it has been blasted, back to the hoist, are pulled with cables by means of air-operated winches, and in some of the larger mines they have small excavators which they call mucking
2730 machines, which scoop up the ore after it has been blasted loose from the face, and load it into the cars which are pulled back to the hoist.

The air compressors that compress this air are driven almost without exception by synchronous motors. That is

—1,304—

a type of electric motor by means of which the power factor of the line serving the load can be controlled. These motors are usually over-excited, producing a leading power factor on the motor load, and off-setting the lagging power factor

on the hoist motor load, producing practically unity power factor on the entire load. Unity power factor is the most desirable relationship of voltage and current that could possibly be maintained on an electric system so far as efficiency of generation and transmission is concerned and the rates to these iron mines have a clause in them which gives the customer a lower demand charge in proportion to the extent to which his power factor is above 80 per cent.

In order to avail themselves of that reduced demand charge all of these companies operate their compressors on 2732 synchronous motors and use them as corrective power equipment.

Another relatively heavy use of electric service by these mines is that of hoisting the ore to the surface after it has been mined and loaded in the cars. The hoisting load——

Mr. Binford: (interposing) Mr. Examiner, the Commission has asked me to come down before them on another case for a few minutes. I wonder if we could take about a 15-minute recess?

The Examiner: Since it is almost 4:30 we will 2733 recess until tomorrow morning at 10:00 o'clock.

(Hearing adjourned at 4:10 p. m., to reconvene 10:00 a. m.)

2734

BEFORE THE

Securities and Exchange Commission

File No. 59-10

IN THE MATTER

of

2735 THE NORTH AMERICAN COMPANY, *et al.*

Hearing Room 1102,
Securities and Exchange Commission Building,
Washington, D. C.,
Tuesday, September 10, 1940.

Met, pursuant to adjournment, at 10:00 o'clock a. m.

2736 Before: W. W. SWIFT, *Trial Examiner.*

Appearances:

CHARLES S. HAMILTON, JR., of Sullivan & Cromwell, 48 Wall Street, New York City, Attorneys for the Respondents.

RALPH C. BINFORD, Attorney for the Securities and Exchange Commission.

PROCEEDINGS

The Examiner: The hearing will come to order.

EDWARD H. SCHMIDTMAN resumed the stand and testified further as follows:

Direct Examination by Mr. Hamilton (Continued):

Q. Mr. Schmidtman, will you refer to Exhibit No. 34, Respondents' Exhibit No. 34? I believe you testified yesterday that the seven customers shown under the caption "Wis- 2738
consin Gas & Electric Company, Other Electric Utilities," were all municipal electric utilities. Do you want to correct that statement? A. Yes, I do. Those seven customers include six municipalities to which Wisconsin Gas & Electric Company sells energy, and Wisconsin Power & Light Company, a non-affiliated electric utility, with which the system of Wisconsin Power & Light Company interconnects at two points in Walworth County.

Q. Now, at the conclusion of your testimony yesterday afternoon, you were in the process of describing the electric service furnished by Wisconsin Electric Power Company to 2739
various iron mines in its territory. Will you proceed with that description? A. Yes. I was discussing the different ways in which the iron mines served by Wisconsin Michigan Power Company make use of electric service and was on the

question of hoisting the ore out of the mines.

All of the mines in this district are of the shaft type, none of them being open pit or strip mines, and the hoisting of the ore from the working levels to the surface consumes appreciable amounts of electric power.

2740 The loads imposed on the system of the company by this hoisting operation are somewhat variable and sometimes impose rather heavy demands on the company's system.

A fourth use of the electric energy made by the mines is that of lighting. It represents a relatively small proportion of the total amount of energy consumed by an iron mining customer. Because of the continuous loads which the mines have in doing their water pumping and air-compressing, many of these customers have load factors of 80 per cent. or
2741 higher.

One of the provisions of our rate is that the demand charge shall be lowered in proportion to the extent to which the load factor exceeds a certain set figure, so that with the combination of heavy use operating through the decreasing steps of the energy rate, and the benefit of the power factor correction, which I spoke of yesterday, as well as the load factor correction, these customers earn a very favorable rate for their power requirements.

Q. At the conclusion of yesterday's hearing I asked you whether there were any advantages arising out of the load
2742 —1,308—
diversification within the three companies and you answered that there were. Will you state what those advantages are? A. The advantages arising out of the diversification of loads served by the systems of the three companies operate to the benefit of both the companies and the customers. This diversification results in a much more steady type of load than would result from a situation where any one class of customers alone predominated on the system.

Because of this diversification resulting in more uniform demands, the companies are able to serve these com-

bined loads with facilities of lower generating and transmission capacity than they would be able to render the service with under other circumstances.

This means that each unit of generating capacity is able to serve more combined load because of the diversity in demands of the different classes of service.

Now, the diversification with respect to size of customers is very beneficial, particularly to the customers, because the high capacity equipment that is required to serve the large industrial plants can be operated at efficiencies much above 2744
that that could be attained in smaller units which would be required in serving customers with smaller loads.

In that manner, the customers, whose requirements are less than those of the industries, are able to share the benefits of the economies resulting from the larger plants and higher voltage lines and larger sub-stations which are re-

—1,309—

quired in serving the heavier demands of the larger customers.

Diversification of load resulting in diversity of demands 2745
and improvement of over-all load factor on the system is of distinct advantage in that it makes it possible for the utility system to render over-all service at lower unit cost and also makes it able to return those costs to the customers in the form of lower rates.

Now, the territory of the three companies operating in this area is unified with respect to power sources and is also unified to the extent that it is adequately and efficiently serving the composite loads represented by the entire service area.

2746 Q. Turning now to the gas business, does Wisconsin Electric Power Company do any gas business? A. No. It has no gas business at all.

Q. Both Wisconsin Michigan Power Company and Wisconsin Gas & Electric Company do, however? A. Yes, they do.

Q. Will you refer to Respondents' Exhibit No. 32 and indicate for us the gas service territory of the Wisconsin Gas & Electric Company? A. The gas service area of Wis-
2747 consin Gas & Electric Company is not outlined on Exhibit 32, but it generally follows the routes of the gas transmission lines shown on the map. —1,310—

These lines are indicated by the dotted lines which have been colored yellow. All of the gas service territory of Wisconsin Gas & Electric Company, except 84 square miles, is within the electric service territory of Wisconsin Gas & Electric Company and Wisconsin Electric Power Company.

Those 84 square miles which are outside the electric service area of those two companies, lie in the southwest corner of Kenosha County and the southeast corner of Wal-
2748 worth County. That portion of the gas territory of Wisconsin Gas & Electric Company is within the area in which Wisconsin Power & Light Company renders electric service.

Q. And in that territory is the line or lines indicated on the map as connecting with Genoa City? A. Yes. The area in which Wisconsin Gas & Electric Company renders gas service, generally follows the course of the transmission lines.

Beginning at Racine where the principal gas plant of Wisconsin Gas & Electric Company is located, the gas service territory extends south through and including Kenosha and then west over to Genoa City.

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It also extends from Racine north to the south limits of Milwaukee, and west and north around Milwaukee to the east line of Waukesha County, then, continuing east into and through Waukesha, then north through Pewaukee, and west

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through Oconomowoc, continuing west to a point where a branch line runs north to the city of Watertown, continuing still further west with a branch extending to Lake Mills, and then south through Jefferson and Fort Atkinson to Whitewater.

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Another line runs west from Racine through Sturtevant, Union Grove, Waterford, and then northwest to Mukwonago, and then west through Eagle to the village of Palmyra.

The territory served by these lines includes the villages and cities through which the lines pass, and the adjacent rural territory in which service is rendered to customers who are within reach of the lines.

Q. And what is the square mileage of the gas service area served by Wisconsin Gas & Electric Company? A. It is 1,300 square miles.

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Q. And the population of that area? A. The population served in the gas service territory of Wisconsin Gas & Electric Company is 274,500. By "population served" I mean as in the case of the electric service area population, the population of the communities and rural districts to which gas service is available.

The average population density of this territory is 211 per square mile.

You will observe that that average falls between the average density of the electric service territory of Wisconsin Elec-

tric Power Company and the electric service territory of

—1,312—

Wisconsin Gas & Electric Company.

Q. How many communities are included in the gas service territory? A. There are sixty-one communities, of which eleven are cities and fifty are villages and townships. The principal cities in the gas service territory are Kenosha, Waukesha, Watertown, Lake Mills, Jefferson, Fort Atkinson and Whitewater.

2753 I have excluded Milwaukee from this list, although Wisconsin Gas & Electric Company does render gas service to a few customers along the south limits of the city of Milwaukee. Gas service in Milwaukee, in general, is rendered by another gas company.

The cities that I have just named all lie within the electric territory of Wisconsin Gas & Electric Company.

Q. Are all except Lake Mills served by Wisconsin Gas & Electric Company with electric service as well? A. Yes, they are. In the case of Jefferson, the electric service rendered by Wisconsin Gas & Electric Company is at wholesale for

2754 resale on the municipal distribution system. Wisconsin Gas & Electric Company also renders gas service in four cities which are in the electric service territory of Wisconsin Electric Power Company.

Those include Racine, Cudahy, South Milwaukee, and Oconomowoc.

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Wisconsin Electric Power Company renders electric service in all four of these cities. In the case of Oconomowoc, however, the service is wholesale as the city operates a municipal distribution system.

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Q. Was the company originally solely a gas company? A. Yes, gas. Prior to 1912 the name of the company was Racine Gas Light Company. It operated a gas manufacturing plant and a gas distribution system in the city of Racine, and also a gas transmission line extending from Racine to Kenosha.

In 1912, the name of the company was changed to Wisconsin Gas & Electric Company and at that time it was engaged solely in the manufacture and sale of gas. Later in 1912, the property of the Kenosha Gas & Electric Company 2756
was acquired. This property included a gas distribution system and an electric distribution system in and around the city of Kenosha.

In 1915, the territory was expanded by the acquisition of a gas plant and a gas distribution system in Watertown. In 1923, the property of the Waukesha Gas & Electric Company was acquired. This property included a gas plant and a gas distribution system and an electric power plant and distribution system.

This property rendered service in the city of Waukesha and in the surrounding area in Waukesha County. 2757

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In 1926, Wisconsin Gas & Electric Company acquired the gas and electric systems previously operated by the city of Fort Atkinson.

This property included a gas production plant and a gas distribution system in addition to the electric property.

Q. Have you data as to the number of customers served with gas service by Wisconsin Gas & Electric Company? A. Yes, I have. In 1912, when Wisconsin Gas & Electric Com-

pany was serving in Racine and Kenosha only, that is after the acquisition of the Kenosha properties, the company was serving 11,820 gas customers and in that year it sold those customers 357,862 mcf.

By "mcf" I mean a thousand cubic feet. That is a standard unit of measurement of gas.

In 1926, the year of the latest acquisition, that of the Fort Atkinson property, the company was serving a total of 36,325 gas customers and its sales in that year amounted to
2759 1,482,099 mcf of gas.

From 1926 to the present date, no additional properties have been acquired and during that period the business of the gas system has been increased to where, at the end of 1939, it was serving 51,007 customers who consumed a total of 2,001,296 mcf of gas.

The gas sales of the system first exceeded two million mcf in 1929. Then they fell off to one and a half million

—1,315—

mcf in 1933, and have since climbed to—or rather they
2760 climbed to over two million in 1937, since when the trend has been slightly downward.

Q. What is the area in square miles of the territory served by Wisconsin Michigan Power Company with gas service? A. Wisconsin Michigan Power Company renders gas service in an area of 61 square miles. This area includes the cities of Appleton, Neenah, and Menasha, and a band of suburban territory lying along the gas transmission line connecting the cities.

The transmission line is shown by the line of dashes appearing on Exhibit 32 between Appleton and Neenah.

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Q. What is the population of the area served with gas service? A. The population of the gas service territory of Wisconsin Michigan Power Company is 53,188. The three cities in that territory have a total population of 50,000 and the remaining population of 3,188 is located in the suburban territory lying between the cities.

This entire gas service territory is within the territory in which Wisconsin Michigan Power Company renders electric service.

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Both Appleton and Neenah receive retail electric service from the company, but the city of Menasha has its own electric system to which the company sells energy wholesale.

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Q. Have you data on the number of customers served by Wisconsin Michigan Power Company with gas service? A. In 1923, the year in which continuously available records begin, the gas system was serving 6,583 customers and sold 174,986 mcf. The number of customers applies to the end of the year 1923 and the sales within the year.

In 1923, this system was operated by Wisconsin Traction, Light, Heat & Power Company.

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Q. That is a predecessor company of the Wisconsin Michigan Power Company, is it? A. Yes, it is.

In 1927, the year in which Wisconsin Michigan Power Company came into existence, the system was serving at the end of the year 8,258 customers who consumed 232,909 mcf. of gas. In the year 1930, the system reached its maximum annual sales.

At the end of that year it was serving 9,262 customers and the total sales amounted to 264,857 mcf. Since that time

the volume of sales has gradually declined, although the number of customers hasn't changed materially.

At the end of 1939, the system was serving 9,239 customers, who consumed 207,829 mcf. of gas.

The gas business on this system is continuing to decline.

Q. Previously, you located very briefly the transportation territory of the Milwaukee Electric Railway and Transport Company, the transportation subsidiary of Wisconsin

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2765 Electric Power Company. Will you be a little more specific in locating that territory by names of towns served? A. The Milwaukee Electric Railway and Transport Company now renders street railway and auxiliary gasoline feeder bus service in the city of Milwaukee, the village of Shorewood, the village of Whitefish Bay, the village of Fox Point, the city of Wauwatosa, the city of West Allis, the city of West Milwaukee, the city of Cudahy, and the city of South Milwaukee.

Q. All those towns are designated, are they, on Exhibit No. 32? A. Yes, they all appear.

2766 The company also renders electric trolley bus transportation service in the city of Milwaukee. Our trolleys are overhead, however, rather than underground as you have them here with your street cars in Washington, and that trolley bus service requires double trolleys, inasmuch as the busses travel on rubber tires and have no connection with the ground.

The company also operates an interurban electric railway system with lines reaching from Milwaukee to Port Washington, from Milwaukee to Watertown, from Milwaukee to Hales Corners, and from Milwaukee to Kenosha.

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The Milwaukee-Port Washington line, until quite recently, extended as far north as Sheboygan, Wisconsin, which does not appear on the map. It is located a few miles

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north of Weedens, which is the point at which the northernmost railway sub-station of the company is situated.

Sheboygan is on the shore of Lake Michigan, east and a trifle north of Plymouth.

The service was recently cut back to Port Washington, due to poor operating results, and bus service was substituted from Port Washington to Sheboygan. 2768

The interurban cars now run as far north as Port Washington and turn around at that point.

The Milwaukee-Watertown line is still in existence but the rail service extends west only as far as Oconomowoc. Beyond Oconomowoc transportation service is rendered by means of gasoline busses and although the rail service from Oconomowoc to Watertown has been discontinued, the tracks haven't yet been removed.

The line to Hales Corners, which is just a few miles southwest of Milwaukee, formerly extended over two branches, one leading to Mukwonago and East Troy, the latter city being located in Walworth County, and the other extending to Burlington, which is located in the southwest corner of Racine County. 2769

Both of these branch lines have been abandoned and now the rail service extends only as far as Hales Corners. In abandoning the rail service to East Troy and to Burlington,

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the company would have been required by the Public Service

Commission of Wisconsin to substitute gasoline bus service for the convenience of the public, but it happened that another bus line which was operating in this vicinity was willing to take over those routes and it is now rendering service that was previously rendered by the interurban rail lines.

The rail line to Kenosha passes through the cities of Cudahy and South Milwaukee, as well as though Carrollville, and through the city of Racine. This line is one of
2771 the best operating lines of the entire interurban system, and there are no plans in mind at present for discontinuing any of that service.

Q. Does Wisconsin Gas & Electric Company do any transportation business? A. Yes; Wisconsin Gas & Electric Company operates a number of electric trolley busses in the city of Kenosha. The service rendered there is purely an urban transportation service. It has no interurban lines and has no transportation service in any other city.

Q. And Wisconsin Michigan Power Company, does it have any transportation business? A. Yes, Wisconsin Michi-
2772 gan Power Company now operates gasoline busses in the city of Appleton and between Appleton and Kimberly. Wisconsin Michigan Power Company formerly operated street cars in

Appleton and an interurban rail line to Kimberly, but the rail service was discontinued and gasoline bus service substituted.

Q. Which companies do a steam business? A. Wisconsin Electric Power Company does some steam heating business. The area in which it renders steam heating service is in the

heart of the business district of the city on both sides of the Milwaukee River.

Most of the service is rendered to large office buildings, hotels and public buildings.

Wisconsin Gas & Electric Company also does a steam heating business which is of rather small magnitude. These operations are carried on entirely in the city of Waukesha and are an outgrowth of the business that was acquired when the property of the Waukesha Gas & Electric Company was purchased. 2774

Wisconsin Michigan Power Company does no heating business.

Q. So far your testimony has related to the outlines of the territory served by the respective companies in the various businesses in which they engage.

Turning now to the actual physical properties of the companies, would you state what the aggregate book value of the investment of Wisconsin Electric Power Company, Wisconsin Gas and Wisconsin Michigan Power Company is on electric property? A. Yes, the total book value of the

—1,321— 2775

electric plant in service of the three companies at the end of 1939 was $140,315,612.00.

Q. And what are the major classifications of properties? A. The major classifications of the property include twenty power generating stations with a total rated generating capacity of 539,080 kilowatts at the present time.

Q. By that aggregate figure you mean to include only plants now in operation and available or available for operation, and you are excluding, are you not, projected plants

2776 *Edward H. Schmidtman—By Respondents—Direct*

or plants under construction? A. Yes, that is right. This generating capacity represents the installed rated generator capacity now in place and either in operation or available for operation at the present time.

The second general classification of electric properties is the transmission system which comprises 1,896 miles of line interconnecting the power plants and feeding the distribution system.

The transmission system includes thirty sub-stations with
2777 a combined installed capacity of 702,025 k. v. a. The distribution system of the three companies includes 10,590 miles of pole line, 204 miles of underground lines, 170 sub-stations, with an aggregate installed transformer capacity of 573,486

—1,322—

k. v. a. and 43,532 line transformers whose combined capacity is 422,977 k. v. a.

Q. All figures which you have just given relating to electric plant and property are figures for the combined Wisconsin Michigan group, are they not? A. Yes, they are.

Q. What are the generating stations of the Wisconsin
2778 Electric Power Company? A. Wisconsin Electric Power Company has five generating stations, having a combined installed generator capacity of 479,500 kilowatts. These are all steam plants.

In order of size their individual capacities are as follows:

Lakeside Plant, 310,800 kilowatts; Port Washington, 80,000 kilowatts; Commerce Street Plant, 51,500 kilowatts; Racine Plant, 23,500 kilowatts; and the East Wells Street Plant, 13,700 kilowatts.

Q. Will you now describe the East Wells Street Plant? A. The East Wells Street Plant is the plant in which the newest boiler and the newest generating unit on the system are installed.

The plant contains only this one generating unit which is a turbo-generator rated at 13,700 kilowatts.

The steam turbine operates at a steam pressure of 640 pounds per square inch, and a steam temperature of 825 degrees Fahrenheit.

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The boiler plant burns pulverized coal exclusively. The generating unit went into service in 1939. This plant is located in downtown Milwaukee in the heart of the business district. It is situated on the east bank of the Milwaukee River which furnishes water for cooling the condenser.

I might add here, that boiler make-up water is taken from the municipal water system. The plant furnishes steam for the steam heating system in the East Side business district and also generates electrical energy for distribution in the downtown area.

The plant is in regular operation and during the heating 2781
season it is in continuous operation. The steam, which is delivered to the turbine at 640 pounds per square inch, is expanded in passing through the turbine and is exhausted at twenty-pounds pressure into the high pressure heating system.

From there it is transmitted through the heating mains and service connections to the heating customers.

Now, the plant also operates during seasons of the year outside of the heating season. If it weren't capable of

doing that, it would have to stand idle during the entire summer.

In order to make it unnecessary to shut the plant down or to operate uneconomically when the heating system require-

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ments . low, the plant has been equipped with a condenser into which the turbine exhausts when the exhaust steam is not needed for the steam system.

This condenser, as I explained, is cooled by water pumped
2783 in from the Milwaukee River. The present boiler went into service before the turbo-generator was completely installed. The boiler was completed and began operating in 1938.

It took over the load, that is the steam heating load, of six old boilers located in what we previously called the Oneida Street Plant, which is in a building adjacent to the building in which the new boiler plant is located.

In 1938, the boiler rendered steam heating service only, but in 1939, when the turbo-generator went into operation, then the boiler plant delivered steam to the turbine and through it to the heating system.

2784 The six boilers in the old Oneida Street Plant which were replaced by this new boiler, originally served the Oneida Street generating station, whose generating equipment has since been taken out of service and replaced with a new unit.

The old Oneida Street Station was the first central station in Milwaukee and when it went into operation, it took over the loads of a number of small scattered, inefficient plants, which had been acquired by Wisconsin Electric Power Company during the process of integrating the isolated systems then operating in the Milwaukee district.

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The original boiler plant and the generating equipment in the Oneida Street Plant operated until 1930, furnishing steam and electricity for the same area which is now served by the new plant.

In 1930 the generating equipment was taken out of service but the boilers were continued in service until 1938 when they were relieved of their load by the new boiler plant.

The reasons for making the installation of this new boiler, and the new turbo-generator, at this location, were two-fold: First, the load on the steam heating system in the 2786
East Side business district had grown to a point where the old boilers were incapable of carrying it safely and efficiently; and, second, the requirements for electrical service in the downtown area had also increased to such an extent that there was definite need for additional generating capacity in that district.

The new plant which was installed at a cost of about $1,800,000.00 meets both these requirements. It realizes the economy that can be achieved from using steam, first, for generating electricity, and then for serving steam heating customers. 2787

The use of steam for generating electricity, first, does not detract from its usefulness for heating purposes. It simply involves a matter of giving the steam more heating energy than it needs for heating purposes and taking that heat

energy out of it by electrical generation.

As I have explained, this steam is delivered to the turbine at 640 pounds and then is expanded to twenty pounds where it goes into the heating system. At that point it is

just as useful for heating purposes as it would be if it were generated in a boiler plant which generated steam at twenty pounds.

The economy that is realized through this joint operation arises from the fact that the heat which is put into the steam above that remaining when it goes into the heating system, is available for electric generation, and the residual heat that is left in the steam when it is exhausted, is still available for heating purposes.

2789 Q. You said the installation of the unit in East Wells Street resulted in savings. Is that savings which can be translated into dollars and cents? A. Yes, it is. The saving which I was speaking of is one that is inherent in the type of operation that is practiced at the plant. We have made no attempt to evaluate that saving but a more measurable saving has been made by the new installation in comparison with the cost of operation experienced in the old boiler plant and in the other generating stations of the company as a whole.

During the twelve months ended February, 1940, the
2790 steam produced for heating purposes and the electricity produced for distribution at the new East Wells Street Plant

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were produced at a cost of approximately $130,000.00 less than the cost would have been had that same amount of steam been generated in the old East Wells boilers and the same amount of electricity generated in all the other plants of the companies on an average cost basis.

Those figures don't purport to show the saving resulting from the combined operation of electric and steam heating uses, but rather to show the savings realized from the plant

because of its higher economy than that of other facilities of the company.

Q. Will you describe the Commerce Street generating station? A. The Commerce Street generating station now has an installed generator capacity of 51,500 kilowatts. That is 6,400 kilowatts less than the installed capacity was on December 31, 1939.

I point that out because I have already given a figure representing the total installed generator capacity of all companies as of the present time and subsequently I will use 2792
a figure representing the total installed generating capacity of the three companies of the Wisconsin Michigan group at the end of 1939 and I wanted to point out this change in the capacity of the Commerce Street Plant so there would be no apparent discrepancy in my figures.

—1,328—

The present capacity of the plant is made up of seven generating units. Two of them are rated at 2,000 kilowatts each and generate 600-volt direct current energy.

These units are driven by vertical cross compound Corliss engines which operate at a steam pressure of 180 pounds per 2793
square inch, and a steam temperature of 400 degrees Fahrenheit.

These units went into service in 1905 and are the remaining two of four such units which were installed at that time.

Previously, there were also four other engine-driven units rated at 1,500 kilowatts each and which generated 25-cycle current, but those have since been removed.

Two of the present units in the Commerce Street Plant are rated at 7,500 kilowatts each. They are turbine-driven generators which generate energy at 25 cycles.

2794 The turbines operate at a pressure of 1.3 pounds gauge per square inch, and a temperature of 220 degrees Fahrenheit. They were installed in 1911. These units were installed for two reasons.

First, there had been a rapid increase of load in the area served by the Commerce Street Plant; and, second, the eight engines which were then in service had been installed and designed to operate so as to exhaust their steam into the heating system. —1,329—

2795 It was found, after operating a short period of time, that the eight engines produced more exhaust steam than the heating system required and in order to carry the electrical load on the generators, it was necessary to exhaust this steam into the atmosphere and waste the heat energy contained in it.

In order to supply part of the need for increased electric generating capacity and to supply the means of utilizing the steam being exhausted from the engines in excess of requirements of the heating system, these low pressure turbines were installed. They take the steam at a gauge pressure of 1.3 pounds per square inch and exhaust it into condensers which
2796 are cooled with water pumped in from the Milwaukee River.

I should have explained that Commerce Street Station is located on the Milwaukee River on the opposite side and somewhat upstream from the East Wells Street Plant.

The heating system which is served by the Commerce Street Station is entirely on the west side of the Milwaukee River. There is a connection through between the plants, but normally the East Wells Street Plant serves the east side heating load and the Commerce Street Plant serves the west side heating load.

In 1911 there was also installed one unit rated at 14,000 kilowatts. This unit is turbine driven and generates 60-cycle

—1,330—

alternating current energy.

The turbine operates at a throttle pressure of 200 pounds per square inch and a throttle temperature of 450 degrees Fahrenheit.

Another similar unit was installed the following year—that is, in 1912. These two units were installed purely for the purpose of keeping the plant ahead of load requirements 2798 in the area it was serving.

In 1913 another 60-cycle turbo-generator was installed, having a rated capacity of 4,500 kilowatts. In the same year there was also installed in the Commerce Street Plant a small 250-volt direct current unit which was moved over from the old Oneida Street Plant across the river.

That unit is no longer in service, but I mention it here to support the statement that the maximum installed capacity of the Commerce Street Plant was reached in 1913. That capacity was 61,900 kilowatts.

The Commerce Street generating station was the com- 2799 pany's principal power plant for a number of years. The entire capacity of 61,900 kilowatts remained in service until 1933 when two of the four original vertical engines were removed with their generators—no, that is not correct. In 1933, two of the four original engines were converted to single expansion operation in order to provide more steam for the heating system.

—1,331—

That reduced their rating from 1,500 kilowatts each to 900 kilowatts each. The use of 25-cycle service on the company's system was being reduced according to a program

carried out by the company, and as a result of that program, one of the four original units was taken completely out of service in 1937, and the following year one of the single expansion units was removed, and then the four hundred kilowatt unit, which I mentioned as having been moved over from Oneida Street, was also taken out in 1939.

The continued upward trend of loads in the downtown area of the city, accompanied by the continued increase of the heating load in that district, has made it necessary for
2801 still further additions to be made to the plant.

Plans have been laid for a new high-pressure boiler and turbo-generator to be installed in the Commerce Street Station. Authority was obtained from the Public Service Commission of Wisconsin and work on the installation of the boiler plant and turbo-generator unit was begun in 1939.

This boiler plant is being installed in a new section of the building on the north end of the existing power plant building, but the generating unit is going to be placed in the existing power plant building and room for it is being provided by the removal of the two remaining engine-driven
2802 —by the removal of two of the remaining engine-driven units, and two of the 2,000 kilowatt engine-driven units.

—1,332—

Those removals which were made in 1939 represent a total of 6,400 kilowatts and lowers the plant capacity to its present figure of 51,500 kilowatts.

Q. Giving effect to the completion of the operation of the new unit, what would be the rated generating capacity of the Commerce Street Plant? A. The rated generator capacity of the plant, after the new 35,000 kilowatt unit is in service, will be 86,500 kilowatts.

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The new boiler will generate steam at a pressure of 1,230 pounds—that is, it will deliver steam to the generating unit at 1,230 pounds and a temperature of 900 degrees Fahrenheit.

The furnace will burn pulverized coal exclusively and the boiler plant will have a rating of 375,000 pounds of steam per hour.

The turbo-generator will be of the extraction condensing type. By that I mean that it will be designed to operate in such way that steam can be extracted from the turbine at various stages of expansion, such extracted steam to be 2804 used in the heating system.

The turbine can also be operated to discharge its exhaust into a condenser, in which case the maximum amount of energy in the steam will be utilized in generating electrical power. —1,333—

The condenser will be cooled by circulating water drawn from the Milwaukee River. When the unit is carrying an electrical load of 35,000 kilowatts, it will be capable of delivering 100,000 pounds of steam per hour for heating purposes. The maximum extraction that can be made will be 240,000 pounds per hour, at which time the turbine will be 2805 capable of carrying the load of 24,000 kilowatts on the electrical generating end of the unit.

The maximum extraction of 240,000 pounds per hour will furnish steam equal to the steaming capacity of the original eight boilers installed in the Commerce Street Plant.

Those old boilers will then be taken out of service and will be re-rated to operate at a lower pressure and will be used purely as stand-by steaming capacity for the heating system.

2806

They are not to be dismantled immediately.

Now, I mentioned that the boiler will burn pulverized coal. The boiler installed in the East Wells Street Plant also burns pulverized coal and it replaces the old boilers in the Oneida Street Plant which were used in 1919 to conduct a series of pioneering experiments in the use of pulverized coal in central station boilers.

Those experiments were conducted by the combustion engineering corporation, representatives of the United States
2807 Bureau of Mines and representatives of Wisconsin Electric

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Power Company.

They were quite revolutionary in the field of power generation and the results indicated considerable increases in efficiency in boiler operation. Some of the tests that were conducted at that time showed improvements of four points over the highest efficiencies theretofore obtained in any central boiler plants.

As a result of those experiments which were the first ones carried out on that scale and carried out to an extent
2808 that supported conclusions to the effect that the use of pulverized fuel was practical in central station boilers, really paved the way for the design of the modern pulverized fuel boilers which are being installed in some of the modern generating stations today.

(Discussion off the record.)

The Examiner: I think this is a good point to have a recess. We will take a five-minute recess.

(Whereupon a short recess was taken.)

The Examiner: All right.

The Witness: Continuing with the discussion of the Commerce Street Power Plant, I would like to point out that the reasons for the current additions being made to the plant are the same as those for which the new unit and boiler plant were installed in the East Wells Street Station—that is, increased demand for electric service and increased require-

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ments for heating service in the business district 2810
of the city of Milwaukee.

Before deciding to make the installation at Commerce Street, however, extensive investigations were made to ascertain the best means of meeting those requirements.

Of course, the requirements for more steam in the heating area could be met only by boiler plant capacity installed within reach of that system and the studies contemplated boiler plant installation purely for the purpose of furnishing steam at that location and the possibility of installing additional electrical 2811
generating capacity at various other points on the company's power system.

One of the points considered for the location of the generating capacity was Kenosha because Racine and Kenosha are now served very largely by a high-voltage transmission line which I will describe later, and it was felt there might be justification for the purpose of increasing reliability of service or rather reducing the likelihood of interruptions in the Racine-Kenosha

2812 *Colloquy*

district by installing generating capacity on that part of the system.

In spite of that advantage, however, it was found that the economies that could be achieved by the combined operation for generation and heating purposes, that the decision to install the boiler plant and unit at Commerce Street was reached.

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2813 The present installed capacity of the Commerce Street Plant, excluding the new unit which is going in, is 51,500 kilowatts, but the plant is incapable of carrying that great an electrical load during the peak load season.

The reason for this is that the requirements of the heating system for steam utilize such a portion of the boiler plant capacity that the boilers are unable to furnish enough steam in addition to that to carry the electric generating units at full load.

2814 We consider the dependable heat load capacity of the Commerce Street Plant during the winter season, when the heating loads were high, to be 28,000 kilowatts.

When the current additions have been completed, the total available boiler capacity will be appreciably increased and the dependable generating capacity of present equipment will be increased to about 30,000 kilowatts.

When the new unit is added, representing an additional 35,000 kilowatts, the total dependable capacity of the Commerce Street Plant will be 65,000 kilowatts.

That figure should be distinguished from the total installed capacity of 86,500 kilowatts at that time.

By Mr. Hamilton:

Q. Before leaving the Commerce Street Plant, I don't believe you have told us the steam pressure and the steam temperature at which the 4,500 kilowatt unit installed in

1913 operates. Will you give those figures? A. Yes, I will. 2816
I must have overlooked that information.

The 4,500 kilowatt unit installed in 1913 is a turbine-driven generator which generates 60-cycle alternating current energy. The turbine operates at a throttle pressure of 180 pounds per square inch and a steam temperature of 450 degrees Fahrenheit.

Q. In this plant, taking into account the new addition, there appear to be variations in steam pressure as between the respective unitsofrom 1.3 pounds to 1,200 pounds in the case of the new unit. Can you explain the wide variation in addition to your preliminary explanation of the 1.3 steam 2817
pressure? A. The original generating units in the plant operated at 180 pounds pressure. That was considered a reasonable and economical operating pressure for engines of that type at that time, and the boilers were designed to deliver steam at that pressure.

The 7,500 kilowatt units, as I have explained, were designed to operate at the unusually low pressure of 1.3 pounds per square inch in order to utilize the exhaust steam from the eight engines then in service.

2818 *Edward H. Schmidtman—By Respondents—Direct*

The 200-pound pressure units installed in 1911 and 1912 are considered to operate at essentially the same pressure as

—1,338—

the eight engines previously installed and the 4,500 kilowatt unit subsequently installed. The difference of twenty pounds doesn't throw the two into different general pressure classes.

Now, the decision to install the new boiler and turbo-generator to operate at 1,230 pounds pressure is based on
2819 experience that has subsequently been gained in the installation and operation of units on the high-pressure cycles.

There is considerable economy to be realized through the use of high pressures and high temperatures, inasmuch as there is a certain residual heat in the steam when it is discharged from the bottom stage of the turbine. That amount of heat can not be reduced below a certain practical minimum.

There is also a certain amount of heat lost through radiation. The radiation losses will naturally vary somewhat with the temperature and pressure, but they are kept to
2820 practical minimum values by insulation.

Now, then, above those relatively fixed losses is the range in which the heat which is put into the steam is useful in generating mechanical power in the turbine and subsequently electrical power in the generator, so that the more heat energy that is stored in the vapor above the margin which is certain to be lost, the greater is the percentage of useful heat in the steam.

Now, the art has been developed to the point where pres-

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sures are now in the 1,200 to the 1,300 pound range. I have no doubt that we will have still higher pressures in the future, unless some entirely revolutionary method of converting heat to electricity is discovered and developed to a practical basis.

It is expensive to use high pressures and high temperatures. Operating difficulties not encountered in low-pressure and low-temperature boilers occur regularly in these high pressure units. Difficulties are encountered in the operation of the turbines, but in spite of those difficulties and in 2822
spite of the higher investment required because of the more difficult and more exacting construction of the equipment, the additional economy justifies the expenditure in instances where the fuel cost is not so low that the saving does not off-set the additional cost.

Our companies are in an area where fuel costs are somewhat higher than they are in certain other parts of the country and those higher fuel costs make it economical for us to use the high pressures and the high temperatures when the loading conditions and other operating conditions lend themselves to that type of operation. 2823

These decisions to go to the higher pressures were not made lightly. Most extensive studies were made and, as I will point out when we come to the Lakeside Plant, we have had as great experience as any utility operators in the

—1,340—

country in the operation of high-pressure and high-temperature equipment.

Q. Will you now describe the Racine Power Plant? A. The Racine Power Plant is a steam generating station lo-

cated in the city of Racine on the shore of Lake Michigan near the mouth of the Root River.

It has an installed electrical generating capacity of 23,500 kilowatts, consisting of three turbo-generator units which generates 60-cycle alternating current energy.

The units all operate at 200 pounds pressure and 530 degrees Fahrenheit temperature.

The boilers which supply the steam for the turbines are stoker-fired. The present units in the plant are the ones
2825 which remained in place after the period of additions and removals which the plant has gone through.

The plant was acquired by Milwaukee Light, Heat and Traction Company, a non-operating affiliate of Wisconsin Electric Power Company, in 1919. At that time it was a part of the property—I should say it was acquired from, not by, Milwaukee Light, Heat and Traction Company in 1919. It was a part of the utility operating property of Milwaukee Light, Heat and Traction Company at that time.

The plant was constructed by a previous owner and was acquired by Milwaukee Light, Heat and Traction Com-
2826 pany in 1899. Its original function was to generate energy at

600 volts direct current for use of the street railway system in Racine.

The owner of the plant also operated the railway system at that time. After it was acquired by Milwaukee Light, Heat and Traction Company, it was expanded in order to carry the increasing loads on the railway system and by 1910 the plant capacity had increased to 3,500 kilowatts of 600-volt direct current generating capacity.

Additional units were installed and other units were removed, so that at the present time the three units consist of one rated at 35,000 kilowatts, which was installed in 1915——

Q. (Interposing) 3,500. A. You are right. 3,500 kilowatts —(continuing) which was installed in 1915, one rated at 10,000 installed in 1917, and one rated at 10,000 installed in 1919, making a total present installed generator capacity of 23,500 kilowatts.

The Racine Plant is not in regular electric operation. The 2828
boilers are in continuous operation, however, and furnish steam for the operation of the gas production plant of Wisconsin Gas & Electric Company which is located nearby.

The electrical generating equipment is operated periodically, purely for the purpose of making sure that it is in operating condition and is available to pick up load in case of an emergency on the system.

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Being located in Racine, the plant represents not only available reserve capacity for the entire system, but it also constitutes a valuable stand-by for guaranteeing continuity 2829
of service in the Racine and Kenosha district in case of an outage on the transmission line from Lakeside which furnishes most of the power consumed in that area.

Q. Its maintenance as reserve capacity is necessary for the Wisconsin Electric System? A. Yes, it is. By that I mean it is an essential and important part of the reserve capacity of the system. It is always included as available capacity in computations pointed toward the determination of whether our capacity is sufficient to carry our loads with an adequate margin of reserve, and inasmuch as it is recog-

2830 nized as available reserve in such analyses, and is considered reserve in operating the power generating facilities of the company, it is kept continuously ready to start up and carry load.

The units are not kept spinning all the time, however, and it would take a short time to get the units warmed up so that they could carry load. It is still available and we consider it as load reserve.

Q. What is the function of the steam which that plant
2831 furnishes to the Racine Gas Works of the Wisconsin Gas & Electric Company. A. The steam that is used in the gas works is used for quenching purposes and for heating the

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gas holders. They are the water sealed type holders and the seal must be kept free from ice, otherwise, the holders would be frozen tight and wouldn't operate in the winter time.

During our extreme winters we have ice on open streams and open bodies of water that sometimes reaches a thickness of two or three feet and the water seal on a gas holder will quickly freeze up and then the top of the holder wouldn't be
2832 able to rise and fall as it received and delivered gas.

Q. Will you describe the Lakeside Generating Station? A. The Lakeside Generating Station is the largest power plant owned and operated by Wisconsin Electric Power Company, and is also the largest power plant in the combined systems of the three companies of the Wisconsin Michigan group.

It has a total installed generator capacity of 310,800 kilowatts. This capacity comprises twelve turbo-generator units, all of which generate 60-cycle alternating current. All of the boilers in the boiler plant burn pulverized coal exclusively.

The oldest unit in the plant is one rated at 20,000 kilowatts which was installed in 1920. It operates at a throttle pressure of 290 pounds per square inch and a temperature of 700 degrees Fahrenheit.

The next unit installed went into service in 1921. It is

also rated at 20,000 kilowatts and also uses steam at 290 pounds pressure and 700 degrees.

The third unit which is rated at 30,000 kilowatts was installed in 1922. It operates at the same pressure and temperature as the two 20,000 kilowatt units. 2834

Two more 30,000 killowatt units went into service in 1924, operating at 290 pounds pressure and 700 degrees.

In 1926, a fourth 30,000 kilowatt unit operating at the same pressure and temperature was installed.

Also in 1926, there was installed one unit rated at 7,700 kilowatts which operated at a throttle pressure of 1,230 pounds per square inch and temperature of 750 degrees.

In 1928, one 60,000 kilowatt unit and one more 7,700 kilowatt unit were installed.

The 60,000 kilowatt unit operated at 290 pounds pressure and 700 degrees, while the 7,700 kilowatt unit operates at 1,230 pounds and 750 degrees. 2835

In 1930, another 60,000 kilowatt unit operating at 290 pounds, and 700 degrees, as well as two 7,700 kilowatt units, operating at 1,230 pounds throttle pressure and 750 degrees temperature, were installed.

The Lakeside Plant is located at St. Francis which does not appear by name on Exhibit 32. The location of the plant is shown by the name Lakeside Power Plant, and is about one

2836 mile south of the city limits of Milwaukee on the shore of

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Lake Michigan.

Construction of the Lakeside Plant was first considered in 1915. I have described how the increasing load requirements on the system caused the company to make successive additions in the Commerce Street Plant and you will recall that the Commerce Street Plant first reached its ultimate capacity in 1913.

2837 Only two years later the company considered the construction of another power plant. Plans were laid and designs were drawn for the original Lakeside Plant in 1915 and 1916, but when the United States entered the World War, conditions became such that it was difficult to finance the construction of a project of that magnitude and the plans were temporarily shelved.

The loads continued growing, however, during that period and the company resorted to obtaining power from all possible sources, including the purchase of power from isolated private plants located in the territory.

2838 At the end of 1919, however, the demands were so nearly equal to the total capacity available for generating power that it wasn't possible to postpone the construction of the plant any longer.

The original plans were revived and revised. Construction was begun on the plant in 1920.

Now, the studies that were originally made in 1915 to de-

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termine what size plant should be built and where it should be located, indicated that it would be desirable to build a

new plant rather than install additional capacity in plants then in operation.

The loads on the system south of the city of Milwaukee had been growing substantially in the communities of Cudahy and South Milwaukee and down in Racine and Kenosha. For that reason a location south of the city of Milwaukee received preference.

Another point which led to the decision to locate the Lakeside Plant where it was located, is the availability of an unlimited supply of cool water in Lake Michigan. In a 2840
modern steam plant, somewhere between 700 and 900 tons of water are pumped through the condensers for every ton of coal that is burned and with a plant of the size which Lakeside was expected to ultimately reach, a supply of cold water was quite essential.

Lakeside was not located on the lake in order to receive coal from lake boats, but it was located there largely because of the presence of the plentiful supply of cooling water and it was located south of the city because of the tendency of the loads at that time to be developing in that direction.

Between 1915 and 1930, when Lakeside went into con- 2841
struction, the experiments in pulverized fuel which I previously mentioned, were conducted at the Oneida Street Plant,

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and the possibility of using such fuel successfully in central station boilers had been demonstrated, so the plans for the Lakeside Plant which had previously been prepared were revised to provide for the exclusive burning of pulverized fuel in the boilers in that plant.

The first section that went into operation was completed late in 1920 and it was the first plant in the world of that

capacity to utilize pulverized coal exclusively as a fuel. The decision to use pulverized coal was made quite widely known through its revolutionary nature and renowned engineers and well established engineering periodicals were unanimous in the opinion that it would be a dismal failure.

We have quite a bibliography in our plant department of articles and quotations by people who were unquestionably authorities in the field of power generation who felt that the company was being most unwise in making such an invest-
2843 ment in such a revolutionary development.

That decision required considerable fortitude but it was made. The plant was built and went into operation and its subsequent history has demonstrated that that was one of the pioneering achievements in the field of power generation.

Now, when I speak of pulverized coal, it might be illuminating to tell just a little what it is like. Pulverized coal as burned in modern pulverized fuel boilers is coal that has

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been ground to a fineness such that approximately two-thirds of it will pass through a sieve with two hundred openings per
2844 inch, or forty thousand openings per square inch. That is, there are two hundred wires in each lineal inch.

That would mean that there are two hundred times two hundred which would be 40,000 openings in one square inch of the screen. Approximately two-thirds of the pulverized coal will pass through a screen of that fineness.

A screen that fine will hold water if it isn't under pressure. When mixed with air, this extremely fine coal dust forms an explosive mixture and if it is ignited under certain conditions it will explode with the violence of gun powder

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and that characteristic of the fuel was one of the reasons why the predictions were so unanimously in the direction of failure.

Pulverized fuel had previously been used quite extensively in such operations as cement kilns and refractories and other operations where the heat of the combustion was consumed directly in the manufacturing process without first going through the medium of steam, but never before had it been used successfully on that scale in the generation of steam in central station boilers.

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The pulverized coal is mixed with air by means of carefully controlled apparatus and is supplied to the boilers as

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a mixture of air and coal in which the air content is not quite sufficient to accomplish complete combustion. It is blown in. It is handled by air fans and blown into the boiler through nozzles.

When it reaches the boiler it encounters an uprising current of air which is furnished by other fans, and which furnishes the quantity of air required to complete the combustion.

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The nature of the fuel and the ease of controlling the delivery makes its operation very flexible. It also results in more nearly complete combustion of the coal—that is, less of the fuel value is wasted in the furnace, and it lends itself to more completely automatic operation, eliminating or minimizing the human element, and facilitating accurate adjustment and control of the delivery of coal and air.

During the first months of operation of the Lakeside Plant, difficulties were encountered, as would be expected

in a plant as revolutionary as that, and as a result of those difficulties, the unit heat consumption per kilowatt hour of net output was somewhat above 20,000 B. t. u.

By B. t. u. I mean British Thermal Unit, and in my subsequent testimony I will use the term B. t. u. with that meaning.

By the middle of 1921, the plant was operating quite smoothly. Most of the difficulties had been fairly well ironed

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2849 out and the heat consumption had been reduced to 19,000 B. t. u. per kilowatt hour of net output.

At this point I should also explain what I mean by net output. The total energy generated in a steam generating station may be measured at the terminals of the generator. That energy represents the over-all electrical energy produced in the plant.

Some of that energy is consumed in operating the plant, itself, in driving—in the case of Lakeside—the coal conveyors, the pulverizing mills, the draft fans, the boiler feed water pumps, the condensing water pumps, and various

2850 other auxiliary equipment in the plant.

After the consumption of those auxiliary uses has been deducted from the gross generation of the generators, the remaining difference which is available for delivery to the transmission or distribution system and is measured by the kilowatt hours on the plant switchboard is what I mean by net kilowatt hour output.

System loads continued to grow and, as I have previously pointed out, a 30,000 kilowatt unit was added in 1922 bringing the total installed capacity to 70,000 kilowatts.

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In 1924, two more 30,000 kilowatt units were added and a second section of boiler plant was installed. Up to this time, the first section of boiler plant had been able to supply all of the generators installed in the plant, but when the

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two 30,000 units were installed in 1930, it was necessary to add to the boiler plant and at that time a second contribution to the field of power generation was made at the Lakeside Plant.

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Q. Did I understand you to say this was 1930? A. No; 1924. If I said 1930, I misstated myself. 1924.

This second contribution was the installation of radiant superheaters in the boilers. The boilers previously installed in the plant were equipped with convection superheaters which utilized heat from the gases in the furnace as they traveled through the furnace due to convection.

These radiant superheaters were different from those in that they were installed in such positions that they were exposed directly to the radiant heat from the combustion of the fuel. The advantage of the radiant superheaters over the convex type is that they not only give greater efficiency in

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boiler plant operation by utilizing more of the heat of combustion, but they also maintain constant temperature of steam over a wide range of loads. With convex superheaters, only, the tendency is for the temperatures to vary as the loads on the boiler vary, and the temperature of the gasses varies.

The installation of these radiant superheaters lowered the average heat consumption of the plant to 17,500 B. t. u.

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per kilowatt hour during the first half of 1924, and after the

new boilers had been in operation for some time, the consumption dropped to 16,000 B. t. u. per kilowatt hour.

The downward trend which had been established prior to the installation of these radiant superheaters was continued after they went into operation, but this contribution to the economy of the plant shows up by an abrupt drop in the economy curve in the months following their installation and beginning of operation.

In 1926, the additional units, which I stated were in-
2855 stalled at that time, were accompanied by the installation of a third boiler room. The boilers installed at this time were designed to operate so as to deliver steam to the turbines at a pressure of 1,230 pounds.

This was the first installation of its size in the world to operate at that pressure. One turbo-generator rated at 7,700 kilowatts, 1,230 pounds pressure, and 290 pounds exhaust, was installed as a topping turbine to a 30,000 kilowatt unit which was also installed at the same time.

The high pressure generator, or rather the high pressure turbine, receives the steam at 1,230 pounds, expands it
2856 to 290 pounds when it is returned to the boiler for reheating. It is reheated to 700 degrees and is then delivered to the second generator which, at that time, was one of the 30,000 kilowatt units.

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The successful operation of this high-pressure boiler and the topping turbine was a third major contribution to the field of power generation that was made by the Lakeside Plant.

As would be expected, difficulties were encountered in the operation of the 1,200-pound equipment and the efficiency

of the plant wasn't improved very greatly until these difficulties had been remedied.

By 1928, the equipment was operating smoothly and one more high-pressure boiler and two generating units were installed as before. The units operated in tandem as was the case with the first two high-pressure units.

The high efficiency of these units lowered the plant heat consumption to below 15,000 B. t. u. per kilowatt hour in 1929.

Two more high-pressure boilers and three more units, 2858
operating on the high-pressure-low-pressure cycle, were installed in 1930, bringing the total installed capacity of the plant to its present figure of 310,800 kilowatts.

As we know, at about that time, the business depression occurred and, as a result of that, the demand on the power plant fell off considerably. Because of the reduced loads on the plant, it was possible to produce most of its output by means of the high-pressure equipment.

This type of operation resulted in the maximum efficiency that could be achieved at the plant and in the winter of 1932

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and 1933, the heat consumption of the Lakeside Plant reached its all-time minimum average of about 13,000 B. t. u. per kilowatt hour of net output.

In addition to the contributions which Lakeside Plant has made to the field of power generation in the development of the use of pulverized coal, the use of radiant superheaters and large scale employment of high-pressure steam cycles, a series of experiments in low-temperature distillation of coal was also conducted there.

2860 These experiments were carried on for the purpose of ascertaining whether it would be possible to submit pulverized coal to temperatures at which the gas could be distilled off the coal without affecting the physical properties of the coal to such an extent that it could not subsequently be used in pulverized fuel boilers.

These experiments were carried on over a period of several months and the conclusions reached were that by means of the processes and equipment developed through those ex-
2861 periments, such low temperature distillation can be carried on successfully and can be carried on economically if a market for the by-products of the process could be had.

The Lakeside Plant was subsequently equipped to carry on that type of distillation of coal and the Port Washington Plant, which I will subsequently describe, has also been equipped to distill coal by that process.

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We are not in the gas business, however, and we have not carried on those operations, but the management felt that inasmuch as that process could be conducted at the plants
2862 and it had possibilities of economy, that it would be wise to equip the plants in order to permit carrying it out.

The cost of equipment was very low and has not in any way interfered with the efficient operation of the plants as power generating stations.

Now, there is one noteworthy fact that should be brought out in a discussion of the Lakeside Power Plant and that is that in spite of the pioneering developments that were carried out in the construction of that plant, it was still constructed at a remarkably low unit cost.

The investment in the entire plant, including the step-up sub-station through which its output is delivered to the transmission and distribution facilities of Wisconsin Electric Power Company, is only $83.68 per kilowatt of installed capacity.

Q. Will you describe the Port Washington Generating Station? A. The Port Washington Generating Station is located in the city of Port Washington about twenty-five miles north of Milwaukee. It is on the shore of Lake Michigan. 2864

The plant contains one power generating unit, a turbo-generator rated at 80,000 kilowatts. This unit operates at a throttle pressure of 1,230 pounds per square inch and a

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steam temperature of 825 degrees.

The boiler burns pulverized coal exclusively and the entire plant went into service in November in 1935.

The Lakeside Plant was originally planned to have an ultimate capacity of 200,000 kilowatts, but during its process of construction, loads on the system of the companies had grown so rapidly that the plant was carried beyond its originally contemplated capacity to its present capacity of 310,800 on completion. 2865

Even then it was evident that it wouldn't be long before the company would be faced with the problem of providing additional generating facilities and studies were made to determine the best location and type of such facilities. As I pointed out before, Lakeside is located south of the city of Milwaukee and was located there because loads had grown substantially in that direction during the years prior to its construction.

2866 *Edward H. Schmidtman—By Respondents—Direct*

At the time studies were being made to determine where the plant now located at Port Washington should be built, consideration was given to the fact that it would be desirable to have another plant located at some distance from the Lakeside Plant in such position so that the two would be fairly well balanced against the load center of the district they serve.

The site finally selected was in the city of Port Wash-

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2867 ington and the reasons for the selection were:

First, the site north of Milwaukee, permitting the construction of a transmission loop, guaranteeing continuity of service to the area lying between the two major generating stations of the company.

It is located as near the load center of the system as was practical to do so inasmuch as it is twenty-three miles north of the Granville Sub-Station which is the major distribution center of the system, and Lakeside is twenty-four miles south of the Granville Sub-Station.

This location gives a very desirable balance of power

2868 facilities and load location.

The plant is located on Lake Michigan, which again is a very valuable source of cooling water. Port Washington has harbor facilities which permits the plant to receive lake-borne shipments of coal. It is in close proximity to existing transmission lines connecting Milwaukee and the properties of Wisconsin Michigan Power Company to the north.

Port Washington is a location to which large industries might be attracted by the presence of a source of economical power and, finally, the site chosen had convenient rail con-

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nections to the transportation facilities operated by the company.

Q. At that last point, isn't Lakeside similarly connected by rail facilities? A. Yes, Lakeside is. Lakeside is connected

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to the railway system of the Transport Company by a rail line over which all the coal burned in the plant is hauled.

The Examiner: Does your company pulverize this coal or does it buy it in pulverized form?

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The Witness: No, it pulverizes its coal in the plants.

The coal—taking Port Washington as an example—is received on lake coal boats. It is unloaded on a coal dock which was built at the time the plant was constructed, and is stored there.

It is drawn from that storage and loaded onto rail cars which dump it into a screening plant, which screens out the heavy lumps and crushes them.

From the screening plant it is carried into the power plant where it is discharged into the pulver-

2871

izing mills. The design of the Lakeside Plant was made by engineers in the power plant department of Wisconsin Electric Power Company.

By Mr. Hamilton:

Q. You are speaking of Lakeside now or Port Washington? A. I am sorry. I mean Port Washington.

After the plans were completed, construction was begun in 1930. At that time, loads had recently been increasing and it was anticipated that the 80,000 kilowatts of capacity

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to be installed in the plant would be needed within the length of time it would take to complete the construction of the plant.

The depression again disturbed those plans and load demands on the system fell off. As a result of that, construction was not carried on as rapidly as the original program contemplated, but was carried on at a rate sufficient to discharge the obligations of the company with respect to various commitments it had made on the purchase of equipment.

2873 Because of the delayed construction, the plant wasn't completed until 1935 and it went into operation in November of that year, adding 80,000 kilowatts to the active generating capacity of Wisconsin Electric Power Company.

The knowledge and experience gained by the company's engineers in the construction and operation of the Lakeside Plant were fully utilized in the design and construction of the Port Washington Plant.

The unit at Port Washington is what is called a tandem compound unit, in that it has a turbine with a high-pressure end and a low-pressure end. The boiler delivers steam to

2874 the high-pressure section of the turbine at 1,230 pounds pressure and a temperature of 825 degrees Fahrenheit.

The high-pressure section expands the steam through its stages and exhausts at pressures which vary, depending on the load on the unit, up to the neighborhood of 455 pounds

—1,360—

per square inch.

The steam is then carried back to the boiler and is passed through superheaters which reheat it to a temperature of 825 degrees and it is then returned to the low-pressure section of the turbine.

In passing through that section, it is fully expanded and exhausted into a condenser which is cooled by water pumped from Lake Michigan.

The plans for the station contemplate an ultimate capacity of 400,000 kilowatts and, as at present conceived, that ultimate capacity will comprise five units of 80,000 kilowatts each.

The present construction provides certain facilities in excess of those required for the operation of the present capacity. The coal dock, for instance, has a storage capacity 2876
of 330,000 tons of coal.

That storage will be adequate for considerably greater capacity than is now installed in the plant. The switch house and the coal handling facilities and the water tunnel which now supplies cooling water to the condenser, have all been installed to a greater capacity than is utilized by the present generating unit.

The present total investment in the plant, including the step-up sub-station, amounts to $105.72 per kilowatt of in-

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stalled capacity, and if we apportion to future capacity those 2877
parts of the present facilities which have been installed for the use of additional capacity in the plant, there remains an investment of $79.59 per kilowatt of present installed capacity.

The Examiner: We will recess until 2:00 o'clock this afternoon.

(Whereupon, at 12:30 o'clock p. m., the hearing was recessed until 2:00 o'clock.)

—1,362—

AFTERNOON SESSION

(Whereupon, at 2:00 o'clock p. m., September 10, 1940, the hearing reconvened.)

The Examiner: You may proceed when you are ready.

Whereupon, EDWARD H. SCHMIDTMAN, the witness on the stand at the time of recess, resumed the stand, was
2879 examined and testified further as follows:

Direct Examination by Mr. Hamilton (Continued):

Q. Had you finished your description, Mr. Schmidtman, of the Port Washington Generating Station? A. Not entirely. I wanted to point out that the plant embodies a number of features which are worthy of note. One is that it is built entirely on the unit plan of construction—that is, the first section was laid out, being a single unit, naturally was built on the unit construction basis, but the plans for the ultimate plant will carry that same type of design throughout the
2880 entire station.

Each generating unit will be served by one boiler plant. It will have its own set of auxiliaries, its own transformers, and its own transmission circuits.

The plant will permit of flexibility in the design of future sections, being constructed on the unit basis. If any new developments in the art of using the steam cycles in generat-

ing electric power should take place, those developments can be incorporated in subsequent additions to the plant without disturbing the operation of those put in prior to that time.

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The high temperature of the steam is somewhat above that employed in the Lakeside Plant and is in the range of the highest pressures used in steam plants today, both at the throttle and at the reheat temperature. That high temperature gives greater economy in the utilization of the heat.

The fourth point is that the energy is generated at 22,000 volts which results in reduced current carrying capacity of station wiring, switchboards and bus structures.

The Port Washington Power Plant has established an economy record which has not been equalled by any other plant in the world in regular central station operation. 2882

Problems have arisen in connection with the operation of the equipment and some interruptions have occurred resulting in shut-downs of the plant. Such instances would be expected in the operation of any new power plant or any old one for that matter.

In spite of these shut-downs, however, most of which were scheduled for inspection or repair work, the station has achieved the following average heat ecenomy record:

In 1936, the heat consumption averaged 10,954 B. t. u. per kilowatt hour of net output. 2883

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In 1937, it averaged 10,835 B. t. u. per kilowatt hour of net output.

In 1938, it averaged 10,788 B. t. u. per kilowatt hour.

In 1939, the average was 10,770 B. t. u. per kilowatt hour.

And, in the first six months of 1940, the average heat consumption per kilowatt hour of net output was 10,730 B. t. u.

2884 *Edward H. Schmidtman—By Respondents—Direct*

The minimum monthly average heat consumption was 10,562 B. t. u. per kilowatt hour of net output and was realized in October of 1938.

Q. These plants which you have described are plants in regular operation, are they not? A. Yes, they are.

Q. And, as you have indicated in the case of the Racine Plant, the boilers are operated with regularity even though demand may not be placed upon them all the time? A. Yes, that is the case.

2885 Q. Are there any other stations in the system which are not operated with regularity? A. There are other plants in the system which are used entirely for steam heating purposes and are used for those purposes only occasionally. One of these is the plant located in the Public Service Building referred to as the Public Service Building Plant.

The Public Service Building is the main office building

—1,365—

of Wisconsin Electric Power Company and is located in the business district in the downtown area of the city.

2886 This plant was originally built in 1906 when the building was constructed and it had an electric generating capacity at that time of 4,500 kilowatts.

The electrical generating equipment was taken out of service in 1925, but the boilers have been continued in operation for the purpose of furnishing steam for the heating system.

The boiler plant is not operated regularly but is held as reserve steam generating capacity. Because of its location with respect to the steam distribution mains, the Public Service Building boiler plant renders valuable service to the

heating system in relieving some of the mains of heavy loads in that part of the area served so that it assists in maintaining continuity of service in that part of the system as well as relieving the other steam generating plants of a portion of their load during the peak heating system.

Q. Is there, in addition, a plant located in Stephenson Building? A. Yes. Wisconsin Electric Power Company also operates a boiler plant in the Stephenson Building. The company does not own the building but leases the space that is occupied by the boiler plant. 2888

This plant was acquired in 1926 when the company pur-

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chased the utility property of Wells Power Company, a small company operating electric generating and distribution facilities in the city.

The generating capacity of the plant at that time was 1,000 kilowatts. The Wisconsin Electric Power Company has never made use of that generating equipment and shortly after acquisition removed it from service, keeping the boilers in use for steam generating purposes.

This boiler plant is operated regularly in the summer 2889 time only and supplements the steam transmission capacity of the high-pressure mains which serve buildings with heat for heating water and other heating requirements during the summer time other than space heating.

The low-pressure steam heating system is shut down completely in the summer and the high-pressure system is continued in operation purely for heating water and steam tables, and so forth, and the Stephenson Building Plant is used to supplement the transmission capacity of the mains

which furnish that service in the part of the city where this plant is located.

Q. Are the plants in the Stephenson Building and Public Service Building designated on Exhibit No. 32? A. No, they are not designated on Exhibit 32 as power plants inasmuch as they have no electric generating capacity.

Q. The Racine Plant, however, is designated? A. Yes,

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the Racine Plant is designated on the map. It is shown by
2891 the open square with the vertical bar located at the city of Racine.

Q. What generating capacity does Wisconsin Gas & Electric Company have? A. Wisconsin Gas & Electric Company has four electric generating stations, having a combined installed generating capacity of 1,590 kilowatts. These facilities are very limited in capacity and are composed of 590 kilowatts of hydro-electric capacity and 1,000 kilowatts of steam generator capacity.

The hydro-electric capacity is made up of three stations. One is located at Watertown on the Rock River and has an
2892 installed capacity of 240 kilowatts.

The other two are located in and near the city of West Bend. They are on the Milwaukee River and have an installed capacity of 175 kilowatts each. These plants are all low-head plants—that is, the height through which the water falls in generating power in their water turbines is relatively low.

They are on small streams which have extremely variable flows and their output is small and not dependable. These

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hydro-electric plants are operated only when there is sufficient water in the streams to make their operation possible.

The steam power plant of Wisconsin Gas & Electric Com-

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pany is located in the city of Waukesha. It was acquired by Wisconsin Gas & Electric Company in 1923 by the purchase of the electric and gas properties of the Waukesha Gas & Electric Company.

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The installed generator capacity is 1,000 kilowatts, but the generating equipment is not operated at all. The boilers are in continuous operation during the heating season and furnish steam for a heating system in Waukesha.

The electrical equipment is held as cold reserve on the system of Wisconsin Gas & Electric Company and is available as reserve capacity for the combined systems of the three companies.

These three generating stations of Wisconsin Gas & Electric Company produce a very minor part of the total power requirements of the company.

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As I have stated before, the output is not firm and is not relied upon. In 1939, it constituted only six-tenths of one per cent. of the total electrical energy requirements of Wisconsin Gas & Electric Company. The other 99.4 per cent. was purchased from Wisconsin Electric Power Company.

Q. The steam generating plant at Waukesha is designated on the map, is it not, Exhibit 32? A. Yes, it is shown on Exhibit 32, with a symbol designating a steam power plant.

Q. For the reason that it is available as reserve power

—1,369—

although not in operation, is that right? A. That is right.

Q. When you stated that the company did not rely for firm power or treat as firm power, power generated from its own facilities, you were speaking of both the hydro-electric plants and the steam plants, is that right? A. I was speaking specifically of the hydro-electric plants when I stated that the capacity was not firm and was not dependable. The steam plant, as I have stated, generates no power regularly and is held as reserve capacity.

2897 Q. What is the aggregate generating capacity of Wisconsin Michigan Power Company? A. Wisconsin Michigan Power Company owns and operates twelve generating stations having an aggregate installed capacity of 57,990 kilowatts.

Of these twelve generating stations, ten are hydro-electric plants with an installed capacity of 36,280 kilowatts in total. One of the twelve plants is a steam station located at Appleton, having an installed capacity of 20,000 kilowatts and one is a Diesel engine generating station located at Iron River, having a capacity of 1,710 kilowatts.

2898 Q. Turning, first, to the hydro-electric plants, is there a hydro-electric plant at Appleton, Wisconsin? A. Yes, there is.

Q. Will you describe it? A. Exhibit 32 shows a symbol

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at Appleton designating a combined steam and hydro-electric power plant. The hydro-electric portion of this plant has an installed capacity of 1,440 kilowatts and the generating equipment consists of two vertical units rated at 520 kilowatts each, and one horizontal unit rated at 400 kilowatts.

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Q. You might explain, if you will, the difference between a vertical and a horizontal unit. A. The terms "vertical" and "horizontal" as applied to hydro-electric generating units, refers to the position of the shaft in the machine. A vertical unit has a vertical shaft, usually with the generator at the top and the water turbine at the bottom.

The generator is mounted on the generator floor and the turbine is included in a casing or wheel pit below the generator floor. The water comes into the plant through the gates in the side of the building immediately adjacent to the 2900
water turbines and flows through the turbines then downward and out of the plant in what is referred to as the "tail race."

The horizontal unit in the Appleton plant is one with a horizontal shaft with the water turbines mounted on one end outside the building and the generator on the other end inside the building.

The Appleton hydro-electric plant is located on the Fox River in the city of Appleton. It has an average operating

head of fifteen feet which is furnished by the upper of three 2901
navigation dams maintained in Appleton by the United States Government.

Q. And an operating head is what? A. The operating head is the distance in feet, the vertical distance in feet, between the elevation of the water above the dam from which the plant takes its water and the elevation of the open water surface immediately below the plant into which the water turbine discharges the water that passes through it.

As I explained yesterday, the water power existing at the navigation dams on the Fox River belongs to the Green

Bay & Mississippi Canal Company. The land on which the Appleton power plant stands is leased from the Green Bay & Mississippi Canal Company, and Wisconsin Michigan Power Company pays to the Canal Company a rental for the use of the land as well as annual tolls for the use of the power in the falling water at that point.

The water at the upper dam in Appleton is divided among several users according to the terms of the leases which the Green Bay & Mississippi Canal Company has executed with
2903 water users located at that point.

Under the terms of those leases, a certain portion of the flow in the Fox River above navigation requirements is available for use by Wisconsin Michigan Power Company, not all

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of it but only a specified portion of it.

As I recall, there are four or five different concerns which make use of water from the so-called upper level which is the level of water created by the upper dam in Appleton. Because of the limited amount of water available to the company for its use in this plant, the Appleton hydro-electric
2904 plant, naturally, is operated so as to make the most complete use possible of that available water.

The flow in the Fox River, although regulated to some extent by the operation of the government storage dam at Neenah and Menasha, is still widely fluctuating as to quantity of discharge at different times of the year.

It also varies widely as to average discharge from year to year. There are instances on record where the flow in the river was so low that there was no water at all available above requirements for navigation.

Under those circumstances, the water power plants utilizing the surplus water in the river at the navigation dams had to shut down.

The Appleton hydro-electric plant has been shut down for days at a time because of inadequacy of water in the river. This plant was built in 1901 and was the successor to the world's first hydro-electric station.

The original plant began operating on September 30, 1882, which was only a few days after Thomas Edison's Pearl Street Station in New York went into operation. 2906

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This pioneer hydro-electric plant generated electricity for lighting purposes only and its customers consisted of two paper mills and one residence. The generator in this plant was referred to as a dynamo and it received its power from the shaft of a beating machine in the paper mill.

The load on the beater was so variable, due to the manufacturing operations, that the dynamo would speed up and slow down as the speed of the machine varied. As a result, the voltage fluctuated widely and numerous lamp burn-outs resulted. Lamps were very expensive in those days. 2907

One of the present employees of Wisconsin Michigan Power Company recalls quite clearly that he would make the rounds every morning with a basket full of lamps and he would get $1.60 a piece for them.

Well, a situation under which lamps burned out so rapidly was intolerable, so very shortly the unit was taken off that beater shaft and was connected to be driven by a separate water wheel.

The original installation of the present Appleton power plant was made in 1901 by Wisconsin Traction, Light, Heat

2908 *Edward H. Schmidtman—By Respondents—Direct*

& Power Company, which I have explained was a predecessor of Wisconsin Michigan Power Company.

The plant contained four 500 k. v. a. generators, two of which generated direct current at 600 volts for the railway

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system, and the other two of which generated alternating current for distribution.

These generators were mounted in pairs on two horizontal shafts, one direct current unit and one alternating

2909 current unit on each shaft.

The shafts projected through the outer walls of the power plant building into wheel flumes, which were built for the purpose of conveying the water from above the dam to the water turbines.

Each of these shafts carried three pairs of water turbines. In 1916 one of these entire units was removed and one generator from the other unit was removed. The space that had been occupied by the one unit which was removed completely was then utilized by the installation of two vertical hydro-electric units which are now in place—the two

2910 that are rated at 520 kilowatts each.

The reduced efficiency of the original wheels on the remaining horizontal unit made it impossible for that unit to carry full load on both the generators attached to the shaft so it has been re-rated at 400 kilowatts, giving the present rated capacity of 1,440 kilowatts in the Appleton hydro-electric plant.

Q. Is there a steam plant at Appleton as well? A. Yes, there is. The steam plant at Appleton is housed in the same building that houses the Appleton hydro-electric plant.

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The capacity of the steam station is 20,000 kilowatts, consisting of four turbo-generators rated at 5,000 kilowatts each. The boilers which furnish the steam for these units burn pulverized coal exclusively and deliver steam to the turbines at a pressure of 265 pounds per square inch and a temperature of 480 degrees.

The Appleton steam plant is operated very largely as a source of stand-by or auxiliary power for the ten hydro-electric stations operated by Wisconsin Michigan Power Company. Because of the importance of the loads in the 2912
Appleton area and the surrounding territory, it is considered advisable to keep at least one unit in the Appleton steam plant spinning at all times and carrying a light load.

The reason for that is that during certain times of the year when the output from the hydro-electric plants is high, most of the load in the Appleton area is carried by means of power delivered to the Appleton district over the high voltage transmission line from the northern portion of the territory.

In case of an outage on that line, it would be most important for the company to have spinning reserve at Appleton to immediately pick up that load without interruption 2913
to service.

The original installation at the Appleton steam plant was made in 1901 at the same time the hydro-electric plant

was built.

The two plants were built together. The initial generating equipment consisted of two 1,500 horsepower Corliss engines with clutches by means of which those engines could

be connected to the shafts on which the original horizontal hydro-electric units operated.

There were also clutches between the water turbines on those shafts and the generators. That arrangement made it possible to drive the generators by means of water power from the river or by means of steam power from the engine, or with both together.

In case there was not enough water to carry the load alone, that power would be supplemented by operating the
2915 steam engines.

By 1910, the loads on the plant had increased to the point where it was necessary to make an enlargement in its generating capacity and two low-pressure turbines driving generators rated at 1,250 kilowatts each, were installed in that year.

Two of the present 5,000 kilowatt units were added in 1917. Another was added in 1920, and another in 1924. In the year 1925, the boiler plant was converted to the use of pulverized coal, the success of that method of firing having been demonstrated at the Lakeside Plant in Milwaukee.

2916 In 1926, the first year of operation with pulverized coal,

—1,377—

the average heat consumption per kilowatt hour of net output was reduced by more than 25 per cent. of the average for 1924, the last year of operation before the adoption of pulverized fuel.

In order to relieve a crowded condition in the plant and to facilitate the rearrangement of certain electrical equipment, the two Corliss engines and the low-pressure turbines were removed in 1931. That reduced the installed capacity in the plant to the present figure of 20,000 kilowatts.

The Appleton steam plant was built by Wisconsin Traction, Light, Heat & Power Company. That company was merged into Peninsular Power Company which operated properties in upper Wisconsin and upper Michigan, and in 1927, the name of Peninsular Power Company was changed to Wisconsin Michigan Power Company.

Q. Is there a hydro-electric station in Twin Falls? A. Yes, there is.

Q. Will you describe it? A. The hydro-electric station located at Twin Falls is indicated on Exhibit 32 by the open 2918
square with the horizontal bar located north and slightly west of Iron Mountain, Michigan. It is at the junction of those five transmission lines which are shown on the map.

Q. Before we leave that, there is no name, is there, which

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appears to identify it? A. No. The name of the plant is not shown on the map.

Q. Can you identify it with relation to any name which is shown on the map? A. Yes. It is on the Menominee River northeast of the City of Iron Mountain. 2919

Q. Don't you mean northwest? A. Yes. I mean northwest.

Q. Northeast of Florence? A. Northwest of Iron Mountain is a better description.

Q. And northeast of Florence? A. East and slightly south of Florence.

Q. Oh, yes. A. The power plant building is located on the Michigan shore of the river and the dam reaches from Wisconsin across the river to Michigan.

2920 *Edward H. Schmidtman—By Respondents—Direct*

The generation of the plant, however, is classified as generation in the state of Michigan.

The original section of this plant which was built in 1912 consisted of three units rated at 1,000 kilowatts each. In 1916, the plant was enlarged by the addition of two more units likewise rated at 1,000 kilowatts.

These are horizontal units, the wheels being contained in wheel casings inside the power plant building rather than in a wheel flume. The average operating head on the Twin

2921 —1,379—

Falls plant is forty-two feet.

The Menominee River, at this point, drains a watershed of 1,790 square miles which contributes the water available for the use of the plant. The area of the pond above the dam—that is, the water surface of the lake formed by the dam, itself—is 1,120 acres.

This pond is large enough to permit some degree of manipulation of stored water. By that I mean that it is possible for the plant to operate in such a way as to use more water than is flowing in the river at a given time or less water

2922 than is flowing in the river at another time by taking the additional water from the pond above the dam or permitting it to accumulate in the pond above the dam.

The extent to which Twin Falls plant can be operated in this manner is limited, however, by the fact that the plant is located on a stream which also serves a number of other water power plants below, and out of respect for their riparian rights, it is necessary for the Twin Falls plant to deliver substantially the natural flow of the stream to those water users downstream.

The volume of the pond above the dam is such that by drawing it down one foot, the plant is capable of generating 35,000 kilowatt hours of energy. The pond at Twin Falls is utilized to a considerable extent in ironing out the irregularities of flow resulting from peak load operations at the

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Brule River plant located upstream which I will describe next.

The Twin Falls plant is also operated in such a way that its discharge will offset the irregular discharge from the 2924
Pine River plant located on the Pine River, whose operations I will also describe shortly.

Q. What is the present capacity of the Twin Falls plant? A. The present capacity is 5,000 kilowatts. That rating is at a rated power factor of 80 per cent.

The 80 per cent. power factor is the power factor specified by the manufacturer of the machines, but because of the characteristics of the transmission line through which a large part of the output from the Twin Falls plant is delivered, the plant usually operates at a power factor approximating unity, and because of that fact, it is possible for the plant 2925
to carry 6,200 kilowatts without overloading the units, and that load is frequently carried at the plant during seasons of plenty of water.

—1,381—

Q. Will you describe the Brule River plant? A. The Brule River hydro-electric plant is located on the Brule River northwest of the Twin Falls plant and northeast of the community of Florence. The plant is situated on an island in the Brule River but the island is considered a part of Michigan

so this plant is likewise located on the Michigan side of the river and its generation is classified as Michigan generation.

I should have explained in discussing the Twin Falls plant that it was built by Peninsular Power Company, predecessor to Wisconsin Michigan Power Company. At the time the Twin Falls plant was built Peninsular Power Company was operating an electric transmission and distribution system in the vicinity of Iron Mountain and Iron River. The principal sources of power at that time were the Twin
2927 Falls plant and a steam plant at the city of Iron River.

Loads increased during the years following 1912 and it was necessary to install additional generating facilities, and for that reason the Brule plant was built by Peninsular Power Company in 1916. The plant has a total installed generator capacity of 4,670 kilowatts, comprising three vertical turbine-driven generators.

The operating head on the plant is 60 feet when the pond is at normal elevation and the drainage area of the Brule River at this point is 1,040 square miles. The pond, when full, has a surface area of 774 acres and for each foot
2928 of elevation by which the pond is drawn down the plant is

—1,382—

able to generate 36,000 kilowatt hours of net output.

The pondage capacity of the Brule plant is used in carrying peak loads in the upper Michigan and northern Wisconsin portions of the territory of the Wisconsin Michigan Power Company. During the peak hours of the day the full capacity of the plant is operated, almost regardless of the season of the year.

This type of operation results during seasons of low flow in the discharge of larger quantities of water at certain times

of day and smaller quantities of water at other times of day. The irregular flow that is caused by this operation is discharged into the pond of the Twin Falls plant which is located immediately downstream.

There are no water users between and the operation as carried on does no damage with respect to conservation and so that type of operation is permissible, inasmuch as the Twin Falls plant is used as a regulating reservoir to smooth out the irregular flows.

The circumstances which make it possible for the Brule 2930
plant to be operated in this manner add appreciably to the value of the Brule River plant as a source of power in this portion of the company's system. If it were not for those characteristics there would be times of the year when the output of the plant would be limited to that which it could generate by using the reduced flow in the Brule River, whereas actually the plant can carry rated load at almost

—1,383—

any season of the year during the peak hours of the day.

Q. You have referred to the Pine River plant. Will you describe it? A. The Pine River plant is located on the Pine 2931
River which is shown on Exhibit 32 about five or ten miles west of the Menominee River. It is southwest from Iron Mountain and south from Florence. This plant was built in 1922 by Peninsular Power Company in order to increase its power supply. It operates at a head of 93 feet which is the highest head of any of the hydro-electric plants operated by Wisconsin Michigan Power Company.

Q. In order to clarify its location, did I understand you to say that it was southwest of Iron Mountain? A. I mis-

stated myself there. I was referring to Twin Falls. It is southwest of Twin Falls and south of Florence, nearly due west from Iron Mountain.

The drainage area of the Pine River at the point where the Pine River plant is located, is 520 square miles. The plant contains two vertical generating units, each rated at 1,600 kw, giving a total installed capacity of 3,200 kw. The pond above the dam at the Pine River plant is quite small, covering an area of only 170 acres when it is full.

2933 This plant was developed by building a relatively low dam across the Pine River at the head of Breakwater Rapids, then building a canal and flume along the side of the valley through which the river flows to a point on the hillside above

—1,384—

the location of the plant. At that point there is a large concrete forebay from which two steel penstocks extend down the side of the bank to the plant which is located on the shore of the Pine River at the foot of the rapids.

By means of the dam and the canal and flume the head, or rather the fall in the river, through the course of the 2934 rapids, is concentrated at the one point and amounts to a total of slightly over 93 feet. Allowing for friction losses in conveying the water the plant has an operating head of 93 feet.

Although the pond above the Pine River dam is rather small, the higher head on the plant makes it possible for the water to be used quite effectively in carrying peak loads. Perhaps I should explain. The amount of power that can be generated from falling water varies in direct proportion to the pressure or head which that water exerts on the blades

of the turbine it is turning, and also in direct proportion to the quantity of water which is flowing through the turbine.

Now then in this case we have a head more than twice as great as we have at Twin Falls so each cubic foot of water that is discharged by the Pine River plant will do more than twice as much work and will produce more than twice as much electrical energy at the Pine River plant as it would at the Twin Falls plant.

So in spite of the smaller reservoir or pond the higher —1,385— 2936
head makes it possible for the Pine River plant to be operated quite effectively as a carrier of daily peak loads. The pond is not large enough to store water over an operating cycle of more than one day, but it is quite effective for carrying hourly variations within the daily load curve.

The high head effective here gives the pond a peak load capacity of 11,000 k. w. h. for each foot of draw-down on the pond. The irregularities in flow in the Pine River which result from the peak load operations at the Pine River plant are carried on down and discharged into the Menominee River a short distance below the Twin Falls plant, as indi- 2937
cated by the map, Exhibit 32.

Immediately downstream from the mouth of the Pine River is a hydro-electric plant operated by the Ford Motor Company.

In order to deliver natural stream flow to the plant of the Ford Motor Company while the Pine River plant is being operated to carry peaks the Twin Falls plant is operated so that its discharge will offset the fluctuations in discharge from Pine River. That can be done effectively be-

cause in off-setting the flow it is necessary to supply only one cubic foot of water at Twin Falls for each cubic foot of water held back at Pine or to hold back one cubic foot of water at Twin Falls for each one delivered at Pine.

At the same time the cubic foot of water that is used at the Pine River plant produces twice as much power as the one withheld at Twin Falls would have produced, so the combined operation of the Twin Falls, the Brule and the

—1,386—

2939 Pine River plants work out as a very effective carrier of peak loads.

Q. Will you describe the Quinnesec Falls plant? A. The Quinnesec Falls plant of Wisconsin Michigan Power Company is located on the Menominee River south of the city of Iron Mountain. The symbol indicating this plant is shown on the map. This plant has an installed capacity of 3,530 kw, made up of two identical horizontal units.

The average head on the Quinnesec Falls plant is 61 feet and the drainage area of the Menominee River at that point is 2,600 square miles. The dam at this point is quite low,

2940 most of the head being furnished by the elevation of the falls, themselves.

The reservoir is small because of the low dam and does not contain enough water to permit any appreciable degree of peak load operation by the plant. For this reason the plant is run on what we refer to as a river-run basis using the flow in the stream as it comes up to the capacity of the plant to use such flow.

This plant was built by the Oliver Iron Mining Company in 1914. The mining company used the output of the plant

in operating its equipment in its iron mines near Iron Mountain and near Norway, Michigan.

The mining operations in Iron Mountain have subsequently been reduced and the mining company decided to sell the plant to Wisconsin Michigan Power Company. That

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purchase was made in 1934. The Quinnesec Falls plant was originally built to operate at a head of 56 feet and did operate at that head during the period of its ownership by the mining company. 2942

At the same location and utilizing water from the same dam the Oliver Iron Mining Company operated a water-driven air compressor plant in which they compressed air for use in their mining operations. The water was supplied to the air compressor plant through an open flume, the upper edge of which was at such elevation that the head on both plants was 56 feet. When Wisconsin Michigan Power Company purchased the plant from the mining company it did not desire to continue operation of the air compressor plant so the gates to the flume were blocked off and the spillways on the dam, itself, were raised five feet, resulting in an increase in head of five feet on the hydro-electric plant. 2943

Because of that change the head is now 61 feet and the electric generating capacity and the electric output of that station are considerably higher than they were under the original arrangement.

I stated that the installed capacity of the plant had a rating of 3,530 kw. That rating is computed on the basis of a 80 per cent. power factor. The units were designed to operate at an 85 per cent. power factor, but the fact is that

they are normally operated under Wisconsin Michigan Power Company operations at almost unity power factor. This

gives them a capacity of about 4,400 kw and by overloading them within safe limits during the periods of the year when the flow in the river is sufficient to carry such loads, the company has been able to operate the plant fairly continuously, at loads approximating 4,600 kw.

This site is what would be referred to as under-developed.
2945 By that expression I mean that in terms of the head and the available water at the site under normal stream flow conditions a plant would ordinarily be expected to have a higher installed capacity than this one has. The low installed capacity in this plant results from the fact that when the Oliver Iron Mining Company built it they were then using a substantial portion of the flow in the river for operating that air compressor and there was no object in installing more hydro-electric equipment than could be operated along with the air compressing machinery. Because of that the hydro-electric plant is unable to use as much of the flow of the river
2946 as most plants on the system of the company are able to use, and if a development were made at this point today, assuming that present plant were not in place, the installed capacity would be considerably above that now in the plant.

Q. How much, would you say? A. It would be at least twice as great.

Q. Is the Menominee River the state line at the point on

the map at which Quinnesec Falls is shown? A. Yes, it is. The Menominee River constitutes the boundary between the

states of Wisconsin and Michigan, all the way from the mouth at Green Bay——

Q. Now, a symbol appears on the map on the south side, that is to say on the Wisconsin side, of the river; the plant is actually—— A. The plant is actually located on the Michigan shore of the river, yes. It was put on the south side there not to indicate the geographical location but rather to indicate a schematic relationship to the system.

Before continuing with the other plants perhaps it would be pertinent at this point to make some general observations 2948
about what is required for a hydro-electric development. There is a fairly popular misconception on this point which leads people to believe that a hydro-electric power plant can be built at almost any point that one would care to build one. That isn't the case. A number of very specific requirements must be met before it is economical to build a hydro-electric plant. First, a suitable location must be found and by a suitable location I mean one where the topography, that is the shape of the ground, is such that a dam can be built at not too great expense.

There should be a fairly steep pitch in the stream or there 2949
should be a fairly narrow canyon or gorge that won't take too large a dam to back up the water.

—1,390—

Second, the characteristics of the stream should be such that there will be a sufficient quantity of water available with sufficient regularity to permit a plant installed at that point to deliver some degree of dependable output.

The drainage area above the point in question is important, in that it will have a large influence on the percentage

of total precipitation which will run off and be discharged by the stream. Its magnitude or size will determine the volume of flow available.

The characteristics of the stream with respect to variations in flow should be reasonably satisfactory in that the plant won't have to be shut off entirely for periods in the year because there is no water in the river and neither should it go so high during flood season that the tailwater rises to a point where the head is reduced and the capacity of the
2951 plant is curtailed.

In the general area in which the hydro-electric plants of Wisconsin Michigan Power Company are located, the streams have reasonably steady flows. The Menominee River and its tributaries are not considered extremely flashy. The sites located in this general district, however, will all fall into the low head class, that is we have nothing that will approximate the heads available in some of the larger and better known plants in the country. For that reason one who develops water power sites in this district must be sure that the flow of water is sufficiently dependable, the cost of the
2952 —1,391—
installation is sufficiently low, that the output from the plant will be reasonably steady before he can afford to make investment in a development of that kind. We find it necessary to furnish steam stand-by capacity equal to about one-half of the installed capacity of a hydro-electric plant in order to make the output of that plant firm. In the case of some streams the steam stand-by must be higher than that because the stream falls so low that output of the plant falls to less than one-half of the installed capacity.

Q. Are there recognizable periods of high and low flow in the rivers on which you have plants in the Wisconsin Michigan territory? A. Yes, there are.

Q. They occur with regularity, year after year? A. Yes, within small variation we know fairly well when the spring flood is going to come and when the summer drought will occur. We also have a very regular secondary flood in the fall preceding the winter freeze-up.

Q. Will you identify the periods of high and low flow by months? A. The high water season in our streams usually 2954
begins between March 15 and April 1, and tapers off to what we would consider medium flow conditions by the middle of June. In the later part of July and carrying all through August and into September we experience our summer drought. In October and the early part of November we

—1,392—

normally have a rainy season on the watershed of these streams which carries the flow well above drought conditions and approaches mild flood conditions. The flow then falls off and stays relatively low during the winter but not as low as it is during the summer drought. We experience our 2955
lowest run-off conditions in the summertime.

Now, from year to year these variations may shift a week or two in either direction, but within those limits they can be depended upon to occur at those times except in years of unusually severe drought when the fall rains may not develop at all and the summer drought may be of longer duration than is the case normally.

Q. And in your load forecasting you actually do depend, do you not, on the occurrence of those periods of high and low water? A. Yes, we do.

Q. Within those limits? A. Yes, we do. We budget our production according to a schedule which recognizes those variations in flow and the manner in which they affect the hydro-electric out-put.

Q. Will you describe the Sturgeon River hydro-electric plant? A. The Sturgeon River power plant of the Wisconsin Michigan Power Company is located on the Sturgeon River near the community of Loretto, a few miles east of the city of Norway, in Michigan.

2957 —1,393—

The Sturgeon River is a tributary of the Menominee River. This plant has a single unit rated at 800 kw capacity. It operates at an average head of 65 feet and the river at that point drains an area of about 300 square miles. The plant was built in 1922 by Peninsular Power Company as an additional source of energy for distribution on its system.

The pond above the dam, when full, has a surface area of 248 acres and the plant, by drawing on this stored water, can generate 12,000 kw hours for each foot of draw-down within the draw-down range.

2958 Each of these plants has a limit to which the pond water can be drawn down economically because when the elevation of the pond water is lowered the head or pressure on the wheels is reduced and a given quantity of water used under those conditions of reduced head will produce fewer k. w. h. than it would produce if the pond level were at its maximum.

The flow in the Sturgeon River is not sufficient to permit the plant to carry full load at all times but by utilizing the water stored in the pond it is possible to make the full installed capacity of the plant available for peak load operation during the peak load hours of the day.

2959

There are no other users of water power on the Sturgeon River below this plant and except for conservation requirements, that is with respect to not injuring fish life, the plant is capable of exercising some latitude in manipulating the flow of the stream.

—1,394—

All of these peaking operations of the hydro-electric plants of the Wisconsin Michigan Power Company must be carried on within the limitations imposed by consideration of conservation matters. The Conservation Commission of 2960
Wisconsin has authority over regulation of stream flow to the extent that it may affect aquatic life and so no operator of a power plant is permitted to shut off the flow of a stream completely because if that were done there would be considerable damage to the fish.

The statute also requires that fish ladders or fish ways must be provided wherever a dam is built across a stream in the state and if such fish ways or fish ladders are not provided the owner or operator of the dam has the option of entering into an agreement with the Conservation Commission under which the operator will either stock the waters 2961
with fish above the dam or will pay to have such stocking done.

Mr. Binford: Was that the Wisconsin Commission?

The Witness: The Wisconsin Conservation Commission.

The Examiner: Are you through with that answer?

The Witness: Yes, with that point I am through.

The Examiner: We will have a little recess then.

(Whereupon, a short recess was taken.)

—1,395—

2962 *Edward H. Schmidtman—By Respondents—Direct*

By Mr. Hamilton:

Q. Will you describe the Chalk Hill Plant, Mr. Schmidtman? A. The Chalk Hill hydro-electric plant is situated on the Michigan side of the Menominee River, ten miles east of Amberg, Wisconsin. Amberg is not shown by name on Exhibit 32 but is located at the junction of the 132,000 volt line in Marinette County, Wisconsin.

The total installed generating capacity of the Chalk Hill Plant is 7,800 kilowatts.

2963 Q. I think you had better locate that plant a little more specifically. Can you locate it in relation to Niagara? A. Did you say with relation to Niagara? It is downstream from Niagara on the Menominee River just outside the area indicated as the electric service territory of Wisconsin Michigan Power Company.

It is the upper one of those two hydro-electric plants in that vicinity. The Chalk Hill plant has three vertical generating units rated at 2,600 kilowatts each. It operates at an average head of twenty-eight feet and receives its water from the drainage area of 3,300 square miles.

2964 The surface area of the pond above the dam is 765 acres and the pond contains sufficient water to permit the generation of 15,000 kilowatt hours for each foot of pond drawdown.

The Chalk Hill Plant is ordinarily operated as a river-

run plant, utilizing the flow of the stream as it comes, but when peak carrying capacity beyond that supplied by the other plants is needed in the northern portion of the territory, this plant is also operated as a peak carrier.

The irregular discharge of water resulting from these peaking operations is absorbed in the pond of the White Rapids Plant which is located immediately downstream.

The Chalk Hill Plant was constructed in 1927 and was acquired in 1937 by Wisconsin Michigan Power Company. The former owner was Northern Paper Mills, a concern which operated a paper mill in Green Bay.

Q. And it was acquired in what year? A. It was acquired in 1937 by Wisconsin Michigan Power Company.

Q. Will you describe the White Rapids hydro-electric 2966
plant? A. The White Rapids hydro-electric plant is located on the Michigan shore of the Menominee River immediately downstream from the Chalk Hill Plant. The generating equipment in this plant comprises three vertical units, two rated at 3,000 kilowatts each and one rated at 2,000 kilowatts, making a total rated generator capacity of 8,000 kilowatts.

The drainage area of the river at this point is 3,400 square miles and the head—the operating head on the plant is twenty-nine feet.

—1,397— 2967

The pond above the White Rapids dam is somewhat smaller than that above the Chalk Hill dam, covering an area of 445 acres when the pond is at maximum operating elevation. Sufficient water is stored in the pond to generate 10,000 kilowatt hours per foot of pond draw-down.

This plant is operated so as to discharge normal flow to the stream below. The pond is utilized to absorb the irregularities in the discharge of the Chalk Hill Plant when that plant is used in helping to carry peak loads on the company's system.

2968 *Edward H. Schmidtman—By Respondents—Direct*

The White Rapids plant was built in 1927 at the same time that the Chalk Hill Plant was built. The two stations were connected by means of a 132,000 volt transmission line with the paper mill of the Northern Paper Mills at Green Bay.

They were also connected by means of another 132,000 volt transmission circuit to the 132,000 volt transmission line of Wisconsin Michigan Power Company lying between Twin Falls and Appleton.

2969 The Northern Paper Mills used such power as it needed in its operations of the paper mill of Green Bay and sold the surplus output from the two plants to Wisconsin Michigan Power Company.

The contract for the sale of this energy provided that the entire output of the Chalk Hill Plant should be delivered

—1,398—

to the company and the surplus output of the White Rapids Plant, over and above the paper mills requirements in its operations—excuse me. Would you read that please?

2970 (Whereupon the statement above was read by the reporter.)

A. (Continuing) ——should also be delivered to the company.

This arrangement was continued until 1937 when Wisconsin Michigan Power Company purchased both plants from Northern Paper Mills.

Q. Both Chalk Hill and White Rapids? A. Yes.

Q. Now, is there a hydro-electric plant at Oconto Falls? A. Yes, there is.

Q. Will you describe it? A. The Oconto Falls hydro-electric plant is located on the Oconto River at the community of Oconto Falls. It is shown on the map, Exhibit 32, at a point outside the territory designated as the electric service territory of Wisconsin Michigan Power Company, in Oconto County.

Q. Wisconsin? A. Wisconsin Michigan Power Company.

Q. Oconto County, Wisconsin? A. Yes. This plant has a combined installed capacity of 1,440 kilowatts consisting of four horizontal units of various sizes. 2972

—1,399—

The drainage area of the Oconto River at this point is 754 square miles and the head on the hydro-electric plant averages twenty-eight feet under operating conditions.

The pond above the dam is limited in size, having a surface area of only 240 acres at maximum elevation.

The plant is capable of generating five thousand kilowatt hours from stored water for each foot the pond is drawn down. The Oconto Falls Plant is used in carrying daily peaks during the low water season to as great an extent as the capacity of the pond will permit. 2973

This peaking capacity is of great value to Wisconsin Michigan Power Company because the plant is located at the end of the transmission system in the southern portion of the company's territory and is very effective in maintaining voltage regulation on the system in that district.

The plant also relieves peak loads on the transmission circuits serving the territory at that point.

The Oconto Falls Plant was built in 1915, the first section consisting of one unit with a capacity of 600 kilowatts. It

was rebuilt in 1924 and since that time has been used to generate electrical energy for a pulp mill at Oconto Falls and for distribution to the public.

This plant was purchased by Wisconsin Michigan Power Company from the Union Falls Manufacturing Company, the

—1,400—

former owners.

Q. Have you named all the hydro-electric plants of Wisconsin Michigan Power Company? A. No, there is one more
2975 known as the Weyauwega—W-e-y-a-u-w-e-g-a—located at the community of Weyauwega in the southwestern portion of the territory near Appleton. It is designated by the symbol indicating a hydro-electric plant and is shown in the southern portion of Waupaca County, Wisconsin.

This plant contains a single generating unit rated at 400 kilowatts.

The unit is of the vertical type and operates at an average head of evelen feet. The reservoir area—or rather the pond area—above the dam, covers 286 acres and contains enough water to generate 2,400 kilowatt hours for each foot
2976 of draw-down.

During seasons when the flow in the stream is sufficient to drive the plant at full load, the plant operates so as to utilize as much water as possible.

During seasons when the flow is below plant capacity, the unit is operated so as to carry daily peaks to the extent that the limited reservoir capacity will permit.

The Weyauwega Plant was acquired by Wisconsin Michigan Power Company in 1925 when the property of the Weyauwega Electric Company was purchased. The plant

which was included with the property acquired at that time

—1,401—

was an old and obsolete and inefficient installation.

The plant was completely rebuilt by Wisconsin Michigan Power Company in 1930 when the present equipment was installed.

Q. You spoke of one Diesel engine plant as being owned by Wisconsin Michigan Power Company. Will you locate that plant? A. The only Diesel engine plant owned by Wisconsin Michigan Power Company is located in the city of 2978
Iron River, Michigan.

This plant is shown by the appropriate symbol on Exhibit 32 at the city of Iron River, west of Crystal Falls. It contains two generating units, each rated at 855 kilowatts, giving a total rated capacity of 1,710 kilowatts.

The generators are driven by 1,250 horsepower, five-cylinder Diesel engines.

The plant was built by Peninsula Power Company in 1923 as a means of increasing its supply of stand-by power to make firm the generation of the water power plants operated by that company at that time. 2979

The plant is not now in regular operation, but is started and run under load for short periods periodically in order to make sure that the equipment is in operating condition and could be used in case the occasion required.

Q. Has the company a storage reservoir under construc-

—1,402—

tion in the Michigamme River? A. Yes, Wisconsin Michigan Power Company is now engaged in the construction of a storage dam on the Michigamme River in Iron County,

2980 *Edward H. Schmidtman—By Respondents—Direct*

Michigan—M-i-c-h-i-g-a-m-m-e. The location of this dam is not shown on Exhibit 32, but can be located on the map as the point at which the Michigamme River makes a sharp turn north and east of Crystal Falls. The dam will be located on the east and west section of the river at that point.

Q. The river runs almost directly east in Dickinson County, does it not? A. At the point where the reservoir dam will be constructed, the river extends for a very short distance into the open area of the map northeast of Crystal Falls and
2981 the dam will be constructed on a section of the stream where it is actually flowing toward the west.

This dam will result in a substantial improvement in the regularity of the flow in the Menominee River and will consequently improve the characteristics of the power generated by all plants on the Menominee.

The reservoir is of such capacity that it will store five billion cubic feet of water and will increase the firm capacity of the four hydro-electric plants of Wisconsin Michigan Power Company on the Menominee River by about 3,700 kilowatts and will increase their annual output by about seven
2982 —1,403—
and a half million kilowatt hours.

Q. Can you approximate the time at which this proposed dam will be completed? A. The present construction schedule which is being followed successfully contemplates that the dam will be finished in time to capture the spring floods in the year 1941. That means that it will have to be finished no later than the first of March, 1941.

The present progress of the construction indicates that that completion date will easily be met.

2983

Q. In addition to the existing hydro-electric plants, what additional water power sites does Wisconsin Michigan Power Company own? A. Wisconsin Michigan Power Company owns part or all of the land required for the development of six water power sites. One of these is located on a stream which is not shown on Exhibit 32. It is the Sturgeon River which flows north into Lake Superior from Baraga County which is shown on the map.

The river rises in the vicinity of Michigamme which appears on the map above the letter "G" in the word Michigan, 2984
and flows generally to the west, turns around to the northeast and discharges into the body of water which cuts off the Keweenaw Peninsula from the main body of the upper peninsula.

—1,404—

The undeveloped power site is located in Baraga County at about the west limit of the open space to the west of the word Baraga. This site has an available head of eighty-seven feet and if developed to utilize the quantities of flow usually utilized in rivers of this character, will support a
generating capacity of 1,350 kilowatts and in a normal 2985
stream flow year would produce an output of 2,500 kilowatt hours.

Q. And that location has a name, does it? A. Yes, that site is known as the Big Falls site on the upper Sturgeon River. The word "upper" is applied to this Sturgeon River to distinguish it from the Sturgeon River in Dickinson County on which the Sturgeon River Plant of Wisconsin Michigan Power Company is now located.

2986

Another of these undeveloped water power sites is located on the Paint River which flows into the pond of the Brule River Plant.

The Paint River is a relatively small stream and has not been shown on the map, Exhibit 32. This site known as Horse Race Rapids has a potential head of sixty feet and will support an installation of 2,400 kilowatts which in a year of normal run-off would be capable of generating 13,200,000 kilowatt hours.

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Q. Would you relate that site to a town in the relatively immediate neighborhood? A. The best way of describing the location of that site would be to say that it is

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located north of and in the immediate vicinity of the Brule River Plant which is northeast of Florence.

Another of the undeveloped sites in which Wisconsin Michigan Power Company is interested is known as the La-Salle Rapids site on the Pine River.

This site is located upstream from the Pine River Plant just below the junction of the two rivers that join at that

2988

point.

The available head here is forty-nine feet and the site would support a capacity of 2,000 kilowatts which would produce 7,000,000 kilowatt hours in a year of normal stream flow.

Q. And the junction of the two rivers to which you referred appears on the map, Exhibit 32? A. Yes, the junction does appear on the map.

Another undeveloped water power site owned by Wisconsin Michigan Power Company exists in the form of addi-

 2989

tional head which could be developed at the company's present Quinnesec Falls Plant.

I explained that this plant was purchased from Oliver Iron Mining Company. When that purchase was made, there was also acquired from the Mining Company sufficient land above the pond of the present plant to permit the development of additional head of twenty-nine feet, either by means of raising the present dam at Quinnesec Falls to that

—1,406—

extent or by installing another dam upstream at a point 2990
where that head could be developed.

The more economical plan of utilizing this increased head would be to raise the dam at Quinnesec Falls. If that were done, an additional head of twenty-nine feet would be utilized, permitting the economical installation of an additional capacity of 10,000 kilowatts which would generate increased output of 64,000,000 kilowatt hours in a year of normal run-off.

All of the additional capacity covered by this redevelopment and the additional output available from it would not be due to the increased head of twenty-nine feet. 2991

A portion of it would be due to increasing the use of water at the site beyond the point to which the present capacity is able to use the water.

I explained that the present plant is under-developed. The proposed redevelopment which I have just outlined would not be an under-development of the site.

Q. Is the figure of 10,000 kilowatts which you have given additional to the existing capacity of Quinnesec Falls? A. Yes, that would be additional capacity.

2992 *Edward H. Schmidtman—By Respondents—Direct*

Q. So that the redevelopment would not disturb the existing capacity of Quinnesec Falls? A. No, not at all, and the 64,000,000 kilowatt hours would be in addition to the

—1,407—

output of the present plant. Another undeveloped water power site in which Wisconsin Michigan Power Company holds a portion of the land required for development is known as Sand Portage Rapids on the Menominee River.

This site is located at a point on the Menominee River
2993 which falls between the communities of Niagara and Norway on Exhibit 32.

The head available at Sand Portage Rapids is forty-two feet. The proposed development would have a capacity of 9,100 kilowatts and would generate an average annual output of 38,000,000 kilowatt hours.

Another undeveloped hydro-electric site owned by Wisconsin Michigan Power Company is known as the Pemene—P-e-m-e-n-e—dam site on the Menominee River.

This site is located at a point upstream from the Chalk Hill Plant where on Exhibit 32 the Menominee River first
2994 has electric service territory of Wisconsin Michigan Power Company on both sides.

The available head at the Pemene dam site is twenty-seven feet and a development of that head would support a capacity of 6,000 kilowatts and produce an annual average output of 30,000,000 kilowatt hours.

There are three other undeveloped water power sites in the territory of Wisconsin Michigan Power Company whose value would be materially improved by the construction of

—1,408—

the Michigamme storage reservoir.

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Extensive investigation of these sites has not been made, but it is known that after the Michigamme reservoir is completed, these three sites which are located on the Michigamme River between the site of the reservoir dam and the mouth of the stream, where it flows into the Menominee River below the Brule River Plant, would support a total installed capacity of about 15,000 kilowatts.

I would like to add here also that all of the undeveloped power sites which I have named and have described as being located on the Menominee River will also be improved considerably in value by the completion of the Michigamme storage reservoir, because of the improvement in flow that that reservoir will produce on the Menominee River.

2996

Q. Does that mean then that the figures you have given for the three named sites on the Menominee River would be increased as a result of the operation of the Michigamme reservoir now in construction? A. It is possible, depending on load conditions existing on the system at the time of the development of these sites, that the improved flow resulting from the operation of the Michigamme reservoir would lead to a decision to install more capacity at some of these points than I have indicated normal stream flow would economically support.

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—1,409—

It can't be stated with certainty whether that would happen, but it is entirely possible because of the improved flow that would be present in the stream.

This much is true, however, that whether the capacity of these proposed plants is changed or not, the operation of the Michigamme storage reservoir will undoubtedly increase the

2998 *Edward H. Schmidtman—By Respondents—Direct*

number of kilowatt hours available annually from the operation of such plants and to that extent would enhance their value.

All of these undeveloped sites are reasonably attractive. That is, they are not just places on the river where it looks as if power could be generated.

They will all reasonably well support the investment that would be required in making the installations, provided there is a market for the power.

2999 Under present conditions, Wisconsin Michigan Power Company is meeting its power requirements adequately with its present generation facilities and by means of an interconnection with the system of Wisconsin Electric Power Company.

Q. Have these sites been chosen as a result of extensive studies? A. Yes, they have. Each of these sites that I have named has been surveyed, preliminary cost estimates involving preliminary designs have been carried out, estimates of the available output and the value of such output have been

—1,410—

3000 made in order to determine whether the sites are worthy of consideration.

In each case, it has been found that with a market for the power the sites are worth more than the cost of the land which the company has purchased at the various locations.

I emphasize a need for a market for the power because that consideration is making it more and more difficult for water powers anywhere in the country to be developed economically.

I testified this morning on the progress that has been made in economy of generation by steam. Those advances

in economy and improvements in efficiency have been accompanied by reductions in cost.

Everyone of these water power sites will be critically examined as to whether it will be capable of competing with the low-cost steam power which can be produced in the steam plants of Wisconsin Electric Power Company before money will be spent on improving them.

Should the loads in the northern portion of Wisconsin Michigan Power Company's territory develop, however, as we hope it will, it is quite likely that many of these sites 3002 will be found economical and will be actually developed.

Q. You spoke of some of the factors which enter into the selection of a water power site. Did you make rainfall

—1,411—

studies in connection with such a selection? A. Yes. We have made extensive studies prior to the acquisition of any of these undeveloped sites.

In the cases of some, the investigations have been more extensive than in the cases of the others. The Big Falls site on the Sturgeon River, which is the first one I mentioned, was one on which the most extensive studies of all 3003 were made.

At the time Wisconsin Michigan Power Company became interested in the acquisition of that property, there wasn't a great deal of reliable information available on the discharge characteristics of the Sturgeon River.

Some studies had been made a number of years before, but there were gaps in their record and those gaps occurred during the flood seasons of the year, which, for the purposes of this investigation, were the most critical periods of the year.

3004 *Edward H. Schmidtman—By Respondents—Direct*

This development, as studied at that time, contemplated a very large storage reservoir which could be filled only by means of capturing the extreme floods in the spring. The reason that those gaps existed in the data made available to us was that the stream gauging stations that had been installed by the engineers who made the previous investigation had been put at such places that they were incapable of measuring the stages in the river during those periods.

A second reason was that the curves which those engineers

3005 —1,412—

had prepared, by means of which the elevation of the water in a river is related to the discharge of the river, had been determined at points which the floods, themselves, disturbed and changed the relationship of the water stage—meaning the elevation of the water—to the stream discharge.

Now, because of those gaps in the data, we were not satisfied to use the assumed figures which had been supplied because, upon investigation, we found that those estimated figures which had been offered in substitute for actual records indicated flows substantially in excess of what the flows

3006 would have been estimated at had we used actual records on surrounding streams for those same periods.

The Sturgeon River drains into Lake Superior and drains an area lying generally in the northern part of Iron County, most of Baraga County and reaching over into Ontonagon and Gogebic Counties.

Other streams draining portions of that same general area showed characteristics which led us to believe that the estimated figures for the Sturgeon River were considerably exaggerated.

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Now, this property was being offered to the company for sale and although we had no reason to question the integrity of the people who had made the studies, our job was to find out whether the representations that they were making with respect to this site could be relied upon.

—1,413—

As a result of the discrepancy between the estimated figures supplied us and the performance of streams in surrounding watersheds, we decided that the best thing to do would be to install our own stream-flow gauges and our own precipitation gauges on the watershed drained by the Sturgeon River.

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Those gauging points and rainfall stations were installed and were kept in operation for a number of years. The records I believe have not been taken during the past two years, but were continued even beyond the time when we were convinced that the price of the property was less than its value as a potential power site.

The company did purchase that property and now holds the Big Falls site as a potential source of water power which would be very useful, as may be seen from the map, in holding up the voltage on the portion of the system reaching into that district and in relieving the transmission line of the loads it must carry in serving that district.

3009

Power capacity on the outlying branches of a system has more value than simply that assignable to so many kilowatts or so many kilowatt hours.

It has what an economist would call "place utility" by being located on a part of the system at which it can do more

3010 *Edward H. Schmidtman—By Respondents—Direct*

than just supply kilowatt hours to a customer and can also improve general operations of the transmission system.

—1,414—

We have made similar investigations on other undeveloped sites although they weren't quite as searching as those we made on the Sturgeon River.

Q. Generally speaking, is production expense low on the hydro-electric plants? A. Yes, it is. Production expense per kilowatt hour of output is very low in hydro-electric
3011 plants, very much below production expense in steam plants. The principal element of cost connected with hydro-electric generation is that of fixed charges on the investment.

Here again, however, two of the elements of fixed charges are sometimes lower than in the case of steam plants. One of those is depreciation.

The rotating equipment in a hydro-electric plant almost invariably operates at a lower speed than does the equipment in a steam plant. It has a longer life and the investment in dams and reservoirs and waterways has a very long life, and over all, the depreciation on investment in hydro-electric
3012 developments is substantially less than that on investment in steam power plants.

The other element of fixed charges which is sometimes lower in the case of water power developments is that of taxes, especially in districts where utility properties are taxed locally.

These plants are in outlying areas. They are in the

—1,415—

woods, one might say, and certain times of the year some of these plants can be reached only by skis or snowshoes and the tax rates in the townships in which these plants are

located would be expected to run below the taxes of locally taxed property in the metropolitan areas. 3013

It happens that in the case of utilities operating in the State of Wisconsin, the operating properties are taxed by the State, so the location has little influence on the tax rates, but in some instances it is entirely possible for the tax rate on hydro-electric properties to be appreciably below that on steam properties which are usually located at the urban centers where their load is situated.

Q. How about labor costs? A. The labor cost per kilowatt hour in hydro-electric plants is also below that in steam plants. 3014

Depending upon the type of load the plants carry, a hydro-electric station might produce more kilowatt hours per kilowatt of capacity than a steam plant or less than a steam plant. One couldn't generalize on that, but the amount of labor required per kilowatt of generating capacity is much less in a hydro-electric plant and generally the labor cost per kilowatt hour is less.

The reason for that can be seen if we consider one element—that of maintenance. Maintenance costs on hydro-electric properties are very low in comparison with maintenance costs on steam operating properties, as I pointed 3015

—1,416—

out with respect to depreciation.

Those same differences would apply to maintenance costs, particularly with respect to rotating equipment.

Q. But it is necessary in this territory to back up the hydro-electric production with steam power? A. Oh, yes. It is most necessary because of the character of the streams on which our hydro-electric plants are located.

3016 *Edward H. Schmidtman—By Respondents—Direct*

I have pointed out that the streams utilized for hydro-electric generation by Wisconsin Michigan Power Company are relatively steady. Perhaps, I should be a little more specific on that point. They are steady with respect to many other streams in our part of the country, but the degree to which they are steady might best be illustrated by the statement that the flow in he Menominee River sometimes falls to a point where the Twin Falls Plant can carry a load equal to only about one-fifth of its installed generating capacity.

3017 At other times of the year, during the floods, the discharge of the Menominee River at the Twin Falls Plant is as much as eight to ten times the capacity of the plant. During those seasons all of the water in excess of the capacity of the wheels to utilize it naturally has to be spilled through the spillways.

—1,417—

There are no plants on the system of Wisconsin Michigan Power Company which do not find it necessary at certain times of the year to spill considerable quantities of water.

3018 Mr. Hamilton: We are about to turn, Mr. Examiner, to another general subject matter of the presentation.

Perhaps this is a time to break off for the evening.

The Examiner: All right, we will recess until tomorrow morning at 10:00 o'clock.

(Whereupon, at 4:25 o'clock p. m., the hearing was recessed until 10:00 o'clock a. m., September 11, 1940.)

—1,418—

3019

BEFORE THE

Securities and Exchange Commission

File No. 59-10

IN THE MATTER

of

THE NORTH AMERICAN COMPANY, *et al.*

3020

Hearing Room 1102,
Securities and Exchange Commission Building,
Washington, D. C.,
Wednesday, September 11, 1940.

Met, pursuant to adjournment, at 10:00 o'clock a. m.

3021

Before: W. W. SWIFT, *Trial Examiner.*

Appearances:

CHARLES S. HAMILTON, JR., of Sullivan & Cromwell, 48 Wall Street, New York City, Attorneys for the Respondents.

RALPH C. BINFORD, Attorney for the Securities and Exchange Commission.

3022 *Edward H. Schmidtman—By Respondents—Direct*

PROCEEDINGS

The Examiner: Let us resume, gentlemen.

EDWARD H. SCHMIDTMAN resumed the stand and testified further as follows:

Direct Examination by Mr. Hamilton (Continued):

Q. Mr. Schmidtman, how many points of interconnection are there between Wisconsin Electric Power Company and
3023 Wisconsin Gas & Electric Company in the transmission system of the two companies? A. There are seventeen points of interconnection between the electric systems of Wisconsin Electric Power Company and Wisconsin Gas & Electric Company which are shown on Exhibit 32.

These points of interconnection appear at Racine, at a point north of Racine on the territorial boundary line between the area served by Wisconsin Electric Power Company and the territory served by Wisconsin Gas & Electric Company; at Kenosha, at Burlington, at two points between Burlington and Racine at Waukesha, at Whitewater in the
3024 northwest corner of Walworth County, at Watertown, at the village of Merton, which is in the northern part of Waukesha County where the color of the line changes from yellow to red; at Granville Sub-station, at the point where the line of Wisconsin Gas & Electric Company enters the territory of Wisconsin Electric Power Company, west of Whitefish Bay,

—1,420—

at Port Washington, at a railway sub-station a few miles northeast of Port Washington, at Belgium, at Cedar Grove, and at Elkhart Lake which is in the northern portion of the territory served by Wisconsin Gas & Electric Company.

In addition to these seventeen points of interconnection which are shown on the map, there are twenty-two other points at which the systems of the two companies interconnect, which points are not shown on this map because the lines haven't been shown.

For the most part, those lines are distribution lines operating at voltages below those of the lines shown on the map.

Q. Can you indicate generally those twenty-two points of interconnection? A. It will be difficult to explain the 3026
locations of some of them because they are on low voltage distribution lines and are at points which are not connected with any of the points indicated on the map.

An example of that would be two points of interconnection near the city of Racine in the distribution systems of the two companies.

There is one connection in the township of Granville which is the township in which the Granville Sub-Station is located. There is another in the township of Waukesha where

the city of Waukesha is located, another near the village of 3027
Pewaukee, which appears north of Waukesha.

There is one in the township of Sullivan in Jefferson County, another in the township of Eagle in Jefferson County. There is another north of Milwaukee in the vicinity of River Hills which appears on the map, another at the sub-station at Brown Deer, another in the township of Merton, in which the village of Merton is located, one in the township of Brookfield, where the village of Brookfield is situated. That village may be found on the map nearly due west from the village of Shorewood which is on the shore

3028 of the lake, a distance of about two inches on the map; in the township of Troy in which the village of Troy Center in the northern portion of Walworth County is located there is another such interconnection.

There is another in the township of Oconomowoc near the city of Oconomowoc in the northwest portion of Waukesha County.

Now, I haven't named them all, but those will serve as examples.

3029 Q. Altogether there are twenty-two? A. Yes, altogether there are twenty-two which are on lines not shown on the map.

These twenty-two points of interconnection are used to deliver energy from the system of one company to the system of the other and the amounts of energy so transferred at these points is less than the amounts transferred at the

points shown on the map because of the fact that the lines are at lower voltages and are portions of the distribution system rather than being parts of the main transmission

3030 systems of the companies.

Q. Now, is there an interconnection between the electric service properties of the Wisconsin Electric Power Company and those of Wisconsin Michigan Power Company? A. Yes, there is. There is a high capacity interconnection between the transmission systems of Wisconsin Electric Power Company and Wisconsin Michigan Power Company at the Appleton sub-station.

That interconnection is shown by the interconnection symbol which appears to the right of the sub-station symbol at the city of Appleton.

3031

The transmission line colored red, extending from the Milwaukee area to this interconnection point is owned by Wisconsin Electric Power Company.

At that point, the interconnection is through the city limits sub-station of Wisconsin Michigan Power Company with the transmission facilities of that company.

Q And the city limit sub-station is located on the city limits of Appleton, Wisconsin? A. Yes, that is right.

Q. Now, there appears on Exhibit No. 32, I believe, a

—1,423— 3032

parallel line. a parallel transmission line, for at least a part of the distance between Appleton and the eastern portion of the Wisconsin Michigan property at that point.

Is it correct to say that the lines of the two systems are operated in parallel at that stretch of territory? A. Speaking electrically, those two lines do not operate in parallel; they operate in series.

Q. But they parallel each other physically? A. They parallel each other physically, and the two circuits are carried on opposite sides of one string of double-circuit steel towers. 3033

Q. That is what I am trying to get at. A. Yes.

Q. And from that point, the line goes generally north as the property of Wisconsin Michigan Power Company up to the northern territory, is that true? A. Yes, that is true.

Q. And would you mind identifying that line so there will be no possible confusion between county lines? A. The line of the Wisconsin Michigan Power Company extending from the city limit sub-station goes to the east and dips slightly to the south to a point where it departs from the

3034 line of Wisconsin Electric Power Company, coming in from Milwaukee.

That junction is located near the community of Forest

—1,424—

Junction, the name of which is not indicated on Exhibit 32.

From that point, the line of Wisconsin Michigan Power Company extends in a northeasterly direction to the vicinity of Green Bay, then skirts the southwestern tip of Green Bay and extends generally north past the community of Niagara,
3035 and then into Michigan and northwest to the high voltage sub-station at the Twin Falls hydro-electric plant.

At that point the 132,000 volt line of Wisconsin Michigan Power Company terminates.

Q. And the voltage of the line that you have just located is 132,000 from Appleton for its entire course, is that right? A. Yes, it is. I will describe that line in more complete detail later.

Q. What is the circuit mileage of the transmission system operated by Wisconsin Electric Power Company? A. Wisconsin Electric Power Company operates 675 miles of
3036 transmission circuits which are carried on 534 miles of supports. The reason that there are more miles of circuit than there are of supports is that some of the supports carry more than one circuit.

Of the 675 miles of circuits, 301 miles operate at 132,000 volts, and 374 miles operate at 26,400 volts.

The mileage of lines operating at 26,400 volts at the present time includes forty-two miles of line originally built

—1,425—

to operate at 66,000 volts, but which is being temporarily operated at 26,400 volts at the present time.

Within the next year or so that line will again be operated at 66,000 volts. Wisconsin Electric Power Company is making some extensions of its transmission capacity and this temporary operation of the line at 26,400 volts and its future conversion back to 66,000 volts are a part of the general program.

I would like to point out that the interconnections, which Wisconsin Electric Power Company has with the systems of Wisconsin Gas & Electric Company and Wisconsin Michigan Power Company, have the effect of uniting the combined 3038
facilities of all three companies into one effective operating power system.

The flow of energy as between the systems of the three companies is carried out to the mutual advantage of all three, the idea being kept in mind that the most advantageous method of operating the three with respect to over-all results, is the proper one to follow.

Returning now to the mileage of transmission lines operated by Wisconsin Electric Power Company, 253 miles of the 534 miles of supports are steel towers, three miles are made up of underground conduit, and 278 miles are made up 3039
of pole line.

This length of pole line includes seven and a half miles

of wood pole "H" frames, which are used to support a 132,000 volt circuit. All the other mileage of pole lines consists of single poles.

Q. Now, there appears on Respondents' Exhibit No. 32, a transmission line between Milwaukee and Watertown. Will you describe that line? A. The line to which you refer begins at the West Allis Sub-station in the city of West Allis.

3040 *Edward H. Schmidtman—By Respondents—Direct*

That sub-station is indicated on Exhibit 32 by the sub-station symbol immediately below the community indicated as West Allis at the west limits of Milwaukee.

The line extends west to Waukesha, then northwest to Waukesha Beach, continuing west through the community of Delafield, then west and north past the city of Oconomowoc, then north and west through the community of Ixonia and west and northwest to the city of Watertown.

This line is the line of forty-two mile length which I spoke
3041 of a moment ago as being operated temporarily at 26,400 volts although originally constructed for 66,000 volt operation.

It consists of two circuits of 1/0 copper which are carried on double circuit steel towers. Each of these circuits consists of three conductors arranged in what is referred to as vertical arrangement; that is, the three wires are supported on one side of the towers with the suspension arranged so that

the wires are above each other in a vertical plane. There is one such circuit of three wires on each side of the towers.

3042 This line was originally built to operate at 66,000 volts and the first section of it which went into operation at that voltage extended from Waukesha Beach to Watertown. At Watertown it formed an interconnection with the system of Wisconsin Power & Light Company, a non-affiliated electric utility.

By means of that interconnection, there was purchased from Wisconsin Power & Light Company twenty-five-cycle hydro-electric energy generated in the Power and Light Company's hydro-electric plants on the Wisconsin River.

 3043

This section went into operation in 1909. The section from Waukesha Beach to West Allis at that time operated at 38,000 volts, but in 1914 it was reconstructed to operate at 66,000 volts.

For a number of years 25-cycle energy was received over this line from Wisconsin Power & Light Company, but Wisconsin Electric Power Company desired to eliminate the use of 25-cycle energy on its system and embarked on a program to reduce that use as rapidly as was reasonably possible to do so. 3044

As a result of that program, the market for 25-cycle energy on the system of Wisconsin Electric Power Company diminished and at the same time Wisconsin Power & Light Company embarked on a program of rewinding the gen-

erators in those plants so that they would generate 60-cycle energy instead of 25-cycle.

That company also wished to reduce the use of 25-cycle energy on its system.

Now, as a result of the reduction of the generation of 25-cycle energy, one circuit of this transmission line from West Allis to Watertown was converted to 60-cycle operation at 26,400 volts in 1938 and in July of 1940, the delivery of 25-cycle energy to Wisconsin Electric Power Company ceased entirely and the other one of the two circuits was converted to 26,400 volt 60-cycle operation. 3045

Q. Delivery by Wisconsin Power & Light Company? A. Yes. There is now under construction a 66,000 volt sub-station at a point to the west and slightly north of the present West Allis Sub-station. This new sub-station is

3046 *Edward H. Schmidtman—By Respondents—Direct*

located on the 132,000 volt circuit which extends from the Lakeside Power Plant and carries on around to the north and connects with the line which extends to Appleton.

This sub-station will have an initial capacity of 15,000 k. v. a. and will have transformers that will transform between the voltages of 132,000 and 66,000. When the sub-station has been completed, it will relieve the West Allis Sub-station of its 66,000 volt operations and will then be the point of delivery to the line which extends to Watertown.

3047 —1,429—

At that time, the line to Watertown will again be converted to 66,000 volt operation.

The circuits of this line, since the termination of the delivery of 25-cycle energy by Wisconsin Power & Light Company, have served to carry energy from the metropolitan area to Watertown——

Q. (Interposing) The metropolitan area in Milwaukee? A. The Milwaukee metropolitan area, yes. (Continuing) ——to Watertown, and to the various distribution stations located along the route.

3048 It also serves to complete a transmission loop constituted by the circuits of Wisconsin Gas & Electric Company to Watertown and the circuits of this line from Watertown back to West Allis.

Q. So that energy is delivered into the system of the Wisconsin Gas & Electric Company at Watertown? A. Yes, it is by means of this line which I have just described.

Q. Now, will you describe the transmission line running from Milwaukee to Appleton? A. This line operates at 132,000 volts. We regard its one terminus as being at Lake-

side Power Plant and the other at the City Limits Sub-station of Wisconsin Michigan Power Company at Appleton. The frequency is 60 cycles and the length of the line 119 miles.

—1,430—

This line was built in three sections. The first section extended from the old Granville sub-station located near the site of the present Granville Sub-station, to Random Lake which appears on Exhibit 32 at a point directly west from Cedar Grove, which is near the shore of Lake Michigan. 3050

The purpose of that section of line which was built in 1923, was to deliver energy from the system of Wisconsin Electric Power Company to the system of Wisconsin Gas & Electric Company through a sub-station which was then in operation at Random Lake.

In the same year, later in the year, the line was extended as far north as Plymouth, which appears on Exhibit 32 as a community not served from the system of the companies. At that point there was formed an interconnection with the system of Wisconsin Power & Light Company which serves the territory not cross-hatched on the map in this general vicinity. 3051

I should add here, however, that service from the city of Plymouth and the immediately surrounding territory is rendered by a municipal plant.

By means of the interconnection with the system of Wisconsin Power & Light Company at Plymouth, that company was able to obtain from Wisconsin Electric Power Company substantial quantities of electrical energy which were

used in the Sheboygan district of the system of Wisconsin Power & Light Company.

In 1931, that interconnection was discontinued inasmuch as Wisconsin Power & Light Company completed in that year a 30,000 kilowatt steam generating station near the south limits of the city of Sheboygan.

That plant was able to take over the load which up to that time had been served by means of the interconnection with the system of Wisconsin Electric Power Company.

3053 The other two sections of the Lakeside-Appleton line were built in 1925. The section from Plymouth to Appleton consists of a single circuit 4/0 line of aluminum cable, steel reenforced.

That is the conductor which has a steel core with aluminum strands wound around it.

I neglected to state that the section of line from the old Granville Sub-station to Plymouth consisted of number 3/0, aluminum cable, steel reenforced.

The section of line from the old Granville Sub-station to the Lakeside Power Plant which was also built in 1925

3054 consisted of number 3/0 aluminum cable, steel reenforced, only one circuit being installed at that time on one side of double-circuit steel towers.

The section from Granville to Plymouth and the section

from Plymouth to Appleton also consisted of a single circuit of conductors on double-circuit steel towers.

The construction of the latter two sections completed the connection between the Lakeside Power Plant of Wisconsin Electric Power Company and the Appleton sub-station of the Wisconsin Michigan Power Company.

This interconnection, as will be explained, subsequently, plays a very important part in the coordinated operation of the electric facilities of the two companies and further to the extent that Wisconsin Gas & Electric Company's operations are intimately interwoven with the electric operations of the Wisconsin Electric Power Company, this transmission line affects the operation of all three companies.

Q. Now, is that line in its entirety operated at 132,000 volts? A. Yes, it is. The entire length from the Lakeside Power Plant sub-station to the City Limit Sub-station at 3056
Appleton operates at 132,000 volts.

Q. And in its entirety is of steel tower construction? A. Yes, it is steel tower construction all the way.

Q. Available for double-circuits? A. There have subsequently been installed on a portion of the towers occupied by this circuit, other circuits which occupy the other side of the towers.

I will describe those in taking up those circuits indi-

vidually.

We regard the line from the Lakeside Plant to the Apple- 3057
ton Sub-station as one individual circuit which is treated as a single unit in our transmission system.

That is why I have limited my description to that one circuit.

Q. Now, there appears on Respondents' Exhibit No. 32 a line running from the Lakeside Power Plant to Whitewater. Will you describe that line? A. This line also operates at 132,000 volts throughout its entire length. It has a total length of fifty miles and operates at 60 cycles. It

consists of one circuit of number 3/0 aluminum cable, steel reenforced, carried on double-circuit steel towers.

The other side of the towers carrying this circuit is vacant for the entire distance, the entire length of the line.

This line was built in 1925 in order to accommodate increased requirements for electric power on the system of Wisconsin Gas & Electric Company in the southwestern portion of the territory it serves.

Prior to the construction of the Lakeside-Whitewater
3059 line, these loads of Wisconsin Gas & Electric Company were carried by means of the 26,400 volts owned and operated by Wisconsin Gas & Electric Company which were supplied with energy at Kenosha, Burlington, and Watertown.

—1,434—

These points of supply are points at which the system of Wisconsin Gas & Electric Company connects with that of Wisconsin Electric Power Company.

The capacity of the 26,400 volt lines serving the Whitewater area prior to 1925 was insufficient to adequately meet the requirements of the growing load and this 132,000 volt
3060 line was built to accommodate those loads.

In 1939, the line was extended approximately seven and a half miles to the southwest as shown on Exhibit 32.

At the point where this extension crosses the boundary line of the territory in which Wisconsin Gas & Electric Company renders electric service, it interconnects with a similar line of Wisconsin Power & Light Company extending northeast from the Janesville Sub-station of that company.

This extension consists of one circuit of aluminum cable, steel reenforced, with a cross-section of 266,800 circular mils.

The conductors are carried on wood pole "H" frames, this seven and a half mile length of "H" frame line being the section I referred to when I described the supports of the company's lines in general.

The contract covering the interconnection and interchange of power with Wisconsin Power & Light Company states that the facilities to be constructed by each of the companies shall be of sufficient capacity to furnish a source

to either company of 25,000 kilowatts of emergency power. 3062

This line will carry a load of substantially more than 25,000 kilowatts.

If proper voltage regulation is available at the sending end and unity power factor could be maintained at the receiving end, the capacity of the entire length of line including the extension would be about 40,000 kilowatts.

The carrying capacity of that line could be increased from Lakeside to Whitewater by adding a second circuit on the vacant side of the double-circuit steel towers, but from Whitewater to the point of interconnection with Wisconsin Power & Light Company the capacity could be increased only by either installing larger conductors, or by constructing another section of line because there is no available conductor space on the present supports. 3063

Q. Now, the terminus of that line in Whitewater is what? A. The 132,000 volt sub-station of Wisconsin Gas & Electric Company located at Whitewater.

Q. And power is delivered into the system of Wisconsin Gas & Electric Company at that point? A. Yes, it is. The point of delivery at Whitewater is the 132,000 volt bus of the

sub-station. That bus, of course, belongs to Wisconsin Gas & Electric Company and the only outlet for that energy

—1,436—

from that point is through the distribution system of Wisconsin Gas & Electric Company.

Now, energy interchanged with Wisconsin Power & Light Company at the territorial boundary line does not flow through the Whitewater sub-station of the Wisconsin Gas & Electric Company.

3065 It simply passes by and doesn't enter into the sub-station at all, but the energy delivered to the sub-station is taken off through the transmission and distribution lines of Wisconsin Gas & Electric Company.

Q. Have you indicated the voltage of the line running from Whitewater to the point of interconnection with Wisconsin Power & Light? A. Perhaps not specifically. That is a 132,000 volt line.

Q. Now, there appears on Respondents' Exhibit No. 32 a line connecting the Lakeside Power Plant with the city of Kenosha on the south. Will you describe that line? A. Yes.

3066 The line you refer to appears on Exhibit 32 as the one lying farthest to the left of the lines extending from the Lakeside Plant to the south. It does not pass through any of the communities shown along the lake shore. At a point west of Racine, a loop circuit takes off this line and extends into Racine and back to the main north-south route of the line.

—1,437—

In Racine, it connects with the 19th Street 132,000 volt sub-station of Wisconsin Electric Power Company. Continuing south from a point west of Racine, it extends into

Kenosha where it connects with the 132,000 volt Albers Street Sub-station of the Wisconsin Gas & Electric Company.

Q. And here again, electric energy is delivered from the system of Wisconsin Electric Power Company into the system of Wisconsin Gas Company? A. Yes, energy is delivered by means of this line into the system of Wisconsin Gas & Electric Company at the Racine Sub-station of Wisconsin Electric Power Company, as well as at Kenosha Sub-station of Wisconsin Gas & Electric Company. 3068

This line operates at 132,000 volts and consists of a single circuit of number 4/0 copper conductor carried on double-circuit steel towers all the way from the Lakeside Plant to the Kenosha Sub-station.

Q. That is a distance of how many miles? A. A distance of sixty-one miles, including the loop into the Racine Sub-station.

Q. Sixty-one circuit miles? A. Yes.

Now, I stated that the line consisted of single-circuit conductors on double-circuit towers. That is true of the entire length of this line except that section extending into 3069

the Racine Sub-station.

On that section, the circuit goes in on one side of the towers and comes out on the other, so those towers are actually carrying two circuits of conductors.

The purpose of constructing this line was to increase the supply of power for the Racine and Kenosha districts. Prior to the construction, the loads in those areas were served by means of 26,400 volt lines lying generally along

the lake shore and by means of power generated in the Racine Power Plant.

The line was built in 1925. In 1927, this line was extended from Kenosha, a distance of about two miles west, and then straight south to the Illinois line where it interconnected with the system of the Public Service Company of northern Illinois.

By reference to Exhibit 32, it will be observed that there is a short section of line of Wisconsin Electric Power Com-
3071 pany extending west from the city of Kenosha. This short section represents the portion of the section which was extended to the Illinois line which now all remains completely in place.

The purpose of the Illinois interconnection was to furnish a source of emergency power for both Wisconsin Electric Power Company and the Public Service Company of northern Illinois.

—1,439—

The interconnection facilities established by both com-
3072 panies had a transmission capacity of 45,000 kilowatts which was specified in the contract as the capacity which each company should make available to the other for emergency service.

This extension consisted of number 4/0 copper conductor on double-circuit steel towers, only a single circuit of conductors being installed.

In 1935, the interconnection with Public Service Company of northern Illinois was discontinued. The Illinois company removed sections of its line and subsequently Wis-

consin Electric Power Company took down portions of its line and used the materials elsewhere on its transmission system.

Q. Now, that line running from the spur is not shown on the map? A. No. The spur extending wes from Kenosha represents that portion of the line which still remains completely in place.

Q. And that is how long? A. That is 1.64 miles long. The entire extension from Kenosha to the Illinois line, including the spur shown on the map, was about nine miles 3074 long.

Subsequent to the discontinuance of the interconnection at the Illinois line, Wisconsin Electric Power Company, as I have stated, used portions of the materials of this line at

--1,440--

other places on the system and during the course of the years has removed two 132,000 volt oil circuit breakers.

I should explain here that these circuit breakers, although they were installed for the purpose of serving this transmission connection, were installed in the Albers Street sub-station of the Wisconsin Gas & Electric Company and 3075 belonged to that company.

They have been removed, however, and installed at other points on the systems of Wisconsin Electric Power Company and Wisconsin Michigan Power Company.

There have also been removed from the Illinois extension 3.2 miles of the copper conductors, all three wires being taken down for that distance. Four-tenths of a mile of conductors and insulators have been removed and 4.1 miles of all the insulators on the line, with the exception of one on each conductor, have been removed.

The single insulator was left up in the case of this distance in order to make it possible to leave the wire in place, since no need for the wire had at that time been found.

Q. Are the steel towers still in place, however? A. Yes, all of the steel towers are still in place.

We estimate that it would cost approximately $55,000.00 to restore this line to its original operating condition.

Q. Now, on Respondents' Exhibit No. 32 there are other lines shown, originating at the Lakeside Power Plant. Is

3077 —1,441—

there a so-called Lakeside-Granville line? A. Yes, there is.

Q. Will you describe it? A. I explained that the circuit from the Lakeside Plant to the Appleton Sub-station is regarded as one circuit or one line, and that that circuit is carried on one side of double-circuit steel towers extending from the Lakeside Plant to Appleton.

Between the Lakeside Plant and the Granville Sub-station there is another circuit carried on the opposite side of these same towers.

Q. I don't believe you have located the Granville sub-

3078 station. Will you locate it on the map? A. The Granville sub-station is located near the community of Granville which appears in the northeast corner of Milwaukee County.

It is approximately due west from the village of Fox Point which is located on the shore of Lake Michigan at about the same latitude.

The Lakeside-Granville line consists of twenty-five miles of circuit, the circuit being three number 4/0 aluminum cables, steel reenforced. They occupy one side of the towers which were built in 1925.

Edward H. Schmidtman—By Respondents—Direct 3079

In 1931, a 132,000 volt sub-station was built at 28th Street in Milwaukee. This sub-station apears on Exhibit 32 immediately to the left of the steam power plant symbol

—1,442—

designating the East Wells Street Power Plant.

It was installed for the purpose of furnishing an additional source of large quantities of power for the industrial area in the city of Milwaukee.

A line serving this sub-station was built consisting of a double-circuit, three hundred thousand circular mil copper 3080
line on steel towers. This line extended from the 28th Street sub-station to the Lakeside-Granville line. At the same time this circuit was constructed, conductors of the same size were substituted for the number 3/0 and number 4/0 aluminum cables which prior to that time were in place between the Lakeside plant and the point where the 28th Street sub-station tap connects with the circuit, so that from Lakeside to the 28th Street sub-station, there are now two circuits of 300,000 circular mil copper conductors, each circuit carried on one side of one row of double-circuit steel towers.

These circuits operate at 132,000 volts and have a trans- 3081
mission capacity of 90,000 k. v. a.

The 28th Street sub-station also has a capacity of 90,000 k. v. a.

Q. What is the function of the Lakeside-Granville line?
A. The function of the Lakeside-Granville Line is to carry

—1,443—

power from the Lakeside Plant to the Granville Sub-station.

The Granville Sub-station serves a very heavy industrial load in the northwestern portion of the city of Milwaukee and in the suburbs in that portion of Milwaukee County.

3082 *Edward H. Schmidtman—By Respondents—Direct*

The Granville sub-station is classified in our property accounts as a transmission sub-station, but in addition to its transmission functions, it also serves as a major point of distribution of power to heavy customers.

Q. On Respondents' Exhibit No. 32, various lines are shown as originating at the Port Washington generating station. Will you describe the lines of the Wisconsin Electric Power & Light originating at that station? A. The line extending to the west from Port Washington and connecting
3083 with the 132,000 volt Lakeside-Appleton line, was built at the same time the Port Washington Power Plant was built.

Its purpose is to provide an outlet for a major portion of the power generated by the Port Washington Plant. This line consists of two circuits, one extending from the Port Washington Power Plant Sub-station to Saukville, at which is located the junction of the Port Washington line and the Milwaukee-Appleton line.

Another circuit extending from Port Washington passes through Saukville and then turns south and follows the route of the Lakeside-Appleton line to the Granville Sub-station,
3084 —1,444—
a distance of twenty-three miles.

The circuit from the power plant sub-station to Saukville consists of 300,000 circular mil copper on double-circuit steel towers and the circuit from the Port Washington Sub-station to the Granville Sub-station also consists of 300,000 circular mil copper conductors, that portion south of Saukville occupying the previously vacant side of the steel towers in the Lakeside-Appleton line.

3085

At the time these circuits were installed, new conductors were put on the opposite side of the towers from Saukville to Granville.

These new conductors were of the same kind as those extending to the Port Washington Plant and replaced the 4/0 copper erected in 1923—I am sorry; I made an error there. It replaced the old 3/0 aluminum cable, steel reenforced, which was erected in 1923 by number 4/0 copper conductors, stranded copper.

3086

These circuits and the changes in conductor sizes which were made between Saukville and Granville have provided an outlet with a capacity of 90,000 k. v. a. for the Port Washington, Plant, although not all of the output of that plant comes out over the 132,000 volt lines.

Some of it is taken off through the 26,000 volt sub-station and the 26,000 volt lines which are fed by it.

Q. Does Wisconsin Electric Power Company have other

transmission lines which are not shown on Respondents' Exhibit No. 32? A. Wisconsin Electric Power Company has transmission lines other than those I have described which

3087

are shown on Exhibit 32.

Q. All right. Begin with those, if you will, and describe them. A. All the transmission lines of Wisconsin Electric Power Company which I have not already described operate at 26,400 volts.

Q. That is to say, all lines shown on the map that you have not described, is that true? A. Yes. These lines serve to connect the high-voltage sub-stations which feed the distribution system. In constructing these lines, a point has

been made of producing parallel or loop circuits wherever economically possible in order to provide alternate routes of power in case of outages on any particular sections and by that means reducing the probability of service interruptions.

The principal lines among those operating at 26,400 volts which are shown on Exhibit 32, include a line extending from the Lakeside Power Plant to the Racine Power Plant. This line is shown on Exhibit 32, following a route beginning
3089 at the Lakeside Power Plant, then passing through Cudahy, South Milwaukee, and Carrollville to Racine.

—1,446—

This line has a total length of twenty-four miles, of which twenty-two miles are carried on wood pole supports and two miles are carried in underground conduit.

Extending from this line at a point just south of the Racine County line, a small tap or spur extends to the west to a point of interconnection with Wisconsin Gas & Electric Company.

3090 The twenty-four mile length which I have just given includes the length of that tap. This line carries energy from the Lakeside Power Plant to the Racine district and was one of the principal sources of power for the Racine district prior to the construction of the Lakeside-Kenosha 132,000 volt line.

Another 26,400 volt line of importance in the system of Wisconsin Electric Power Company is one extending from the West Allis Sub-station whose location I have previously described, to Waukesha. This line has a total length of twelve miles and consists of number 1/0 copper, carried on

3091

wood poles. Its function is to deliver energy from the West Allis Sub-station which is fed by lines from the Lakeside Plant to the Waukesha sub-station for distribution in that area over the system of Wisconsin Gas & Electric Company.

Another line which parallels the one I have just described extends from the Lakeside Plant around and through the West Allis Sub-station, then west to Waukesha.

—1,447—

This line serves, in general, the same functions as the line from the West Allis Sub-station to Waukesha, except 3092
that it extends on through to the Lakeside Plant where it derives its source of power.

It also serves to furnish energy to the West Allis sub-station for distribution in the area served by that sub-station. This circuit consists of number 1/0 and number 4/0 copper and is about twenty-five miles in length. There is also another circuit operating at 26,400 volts extending from the Lakeside Power Plant to the West Allis Sub-station.

This one is eleven miles in length, of which ten miles are carried on wood poles and one mile is in underground conduit. The portion carried overhead consists of number 4/0 3093
stranded copper and the portion lying underground consists of 300,000 circular mil copper conductors.

A 26,400 volt line extends from the Waukesha Sub-station to the Watertown Sub-station, a distance of thirty-five miles.

This circuit consists of number two copper conductors carried on wood poles for the entire distance. It operates generally in parallel with the circuits I described previously as being operated temporarily at 26,400 volts and prior to the time that those circuits were operated at that voltage

3094 this circuit served to deliver energy to the 26,400 volt sub-stations located along the route between Waukesha and

—1,448—

Watertown.

Another circuit operating at 26,400 volts extends from West Allis to Watertown. I would like to correct that. It extends from West Allis to Burlington and East Troy.

That line may be found on the map by starting at the point marked West Allis and traveling generally south to

3095 St. Martins and then following two branches, one nearly west, but slightly south, through Muskego, Big Bend and Mukwonago to East Troy, where the East Troy Sub-station is located, and the other branch leading southwest from St. Martins through Wind Lake, Waterford and Rochester, to the Burlington Sub-station.

The total length of this line is forty-seven miles of number two copper carried on wood poles, and six miles of number 3/0 aluminum cable, steel reenforced, carried on wood poles.

The line receives energy from the West Allis Sub-station

3096 and delivers that energy to the various points along its route and to the sub-stations at East Troy and Burlington. At East Troy the energy received from this line is stepped down to lower voltages and delivered to other lines which distribute it in the East Troy district and surrounding rural areas.

At Burlington, the energy which is delivered by this line is partly converted to lower voltages for distribution by Wisconsin Gas & Electric Company in the Burlington area,

—1,449—

and is partly received at line voltage and taken out on the 26,000 volt lines of Wisconsin Gas & Electric Company.

A 26,400 volt line connects the sub-stations at Burlington and East Troy. This line passes through the community of Honey Creek. It is thirteen miles long and consists of number two solid copper conductors supported on wood poles. It furnishes a source of power for the Honey Creek district and forms a loop circuit bounded by East Troy, Burlington and St. Martins, making it possible to carry service to practically any point on the loop regardless of 3098 where an interruption might occur.

Another 26,400 volt line is operated by Wisconsin Electric Power Company between Cedar Grove and Weedens in the northern portion of the territory served by Wisconsin Gas & Electric Company.

This line has as its purpose the delivery of energy to railway sub-stations located at Oostburg and Weedens. These railway sub-stations have recently been taken out of service because of the abandonment of interurban railway operations of the Milwaukee Electric Railway and Transport Company on the line north of Port Washington. 3099

Q. The line you last referred to is in Sheboygan County? A. Yes, it is.

Another 26,400 volt line is operated by Wisconsin Elec-

—1,450—

tric Power Company between the cities of Racine and Kenosha. This one is indicated by the line colored red. lying immediately to the left of the gas transmission main indicated between those cities.

Its length is ten miles and it consists of 1/0 and 4/0 copper conductors carried on wood poles. This is one of the

lines I previously referred to as formerly furnishing power to Kenosha before the construction of the 132,000 volt line from Lakeside to Kenosha.

It still carries substantial quantities of energy and furnishes valuable reserve transmission facilities to guarantee continuity of service in the Kenosha area.

A 26,400 volt line extends from the Granville Sub-station to Port Washington. It is twenty-four miles long and consists of number three, number two and number 4/0 copper
3101 conductors.

The conductors are carried on wood poles over the entire length of the line. The purpose of this line is to furnish service to sub-stations at Brown Deer, Thiensville and Grafton.

Another 26,400 volt line of Wisconsin Electric Power Company extends from the Granville Sub-station south and west to Waukesha. This line supplements the lines serving Waukesha from West Allis and Lakeside and carries energy to communities located along the route, among which are Brookfield and Elm Grove.

3102 —1,451—

It also serves the County Line Sub-station which appears on Exhibit 32 in the immediate vicinity of the community of Elm Grove.

There are other 26,400 volt lines of Wisconsin Electric Power Company which are classified as transmission lines, but which, because of their short length and the density of what we have already shown on Exhibit 32, were omitted from the map.

For the most part, they serve as loop or parallel circuits to the circuits which I have described and it was felt

that their omission from the map would not detract from the extent of the coverage of the territory which is accomplished by the facilities shown.

Q. Have you referred to the line from Racine to Burlington? A. No, I haven't. I overlooked that one. That is a rather important line. That is, it is important in the operation of the transmission and distribution facilities in the Burlington district, particularly with respect to Wisconsin Gas & Electric Company.

This line extends from the Racine Sub-station southwest 3104
out of the city of Racine and then nearly due west past the communities of Sturtevant and Union Grove, at which points energy is delivered to sub-stations of Wisconsin Gas & Electric Company and then west and slightly south into

—1,452—

Burlington. This line is twenty-eight miles long and consists of number 1/0 copper conductors carried on wood poles. It is a single circuit line operating at 26,400 volts.

Q. And again, energy is delivered at Burlington through the system of Wisconsin Gas & Electric Company? A. Yes. Energy is delivered at the Burlington Sub-station for the 3105
use of Wisconsin Gas & Electric Company.

The Examiner: Let us have a recess of five minutes.

(Whereupon, a short recess was taken.)

By Mr. Hamilton:

Q. What is the circuit mileage in the transmission system of the Wisconsin Gas & Electric? A. The transmission

3106 system of Wisconsin Gas & Electric Company includes 401 miles of transmission circuits which are carried on 376 miles of wood pole lines. All of these lines operate at 26,400 volts except 6.6 miles of line which operate at 13,200 volts.

Q. Now, will you describe the principal transmission lines in the Wisconsin Gas & Electric Company system? A. Wisconsin Gas & Electric Company operates a double-circuit 26,400 volt line extending from Racine to Kenosha. It appears on Exhibit 32 as the line colored yellow, lying on the
3107 left of the one colored red between these two cities. This line is eleven miles long and consists of number 4/0 stranded

—1,453—

copper conductors.

It operates generally in parallel with the circuit of Wisconsin Electric Power Company extending between Racine and Kenosha.

The circuit from Kenosha to Burlington which is operated by Wisconsin Gas & Electric Company, is thirty-two miles long. Leaving Kenosha, it extends to the west and south
3108 through the communities of Pleasant Prairie and Salem and then extends northwest into Burlington.

Twenty-three miles of its length are made up of number four copper conductors and nine miles are five-sixteenth inch stranded steel cable. The entire length of the circuit is carried on a single line of wood poles.

This circuit takes energy which is delivered by Wisconsin Electric Power Company at the Kenosha Sub-station and delivers it to the communities through which it passes and to the Burlington Sub-station at certain times. At other times the circuit serves to take energy from the Burlington

Sub-station and deliver it to the communities located along the route.

Wisconsin Gas & Electric Company operates a 26,400 volt transmission circuit extending from Whitewater to Burlington. This circuit is thirty-nine miles long and consists of number two copper and number four copper conductors. The conductors are double, however. That is, there are two wires instead of one.

—1,454—

There are six wires carried on the poles, but it is operated 3110
as one circuit with double-conductors. The line receives energy from the Whitewater Sub-station of Wisconsin Gas & Electric Company and delivers it in the direction of Burlington, some of the energy actually reaching Burlington but most of it being taken off at the Elkhorn Sub-station and at the points of interconnection with Wisconsin Power & Light Company in Walworth County.

This circuit serves to complete a loop between Whitewater, Burlington, and St. Martins, utilizing the section of 132,000 volt line from Lakeside as one of the possible sources in serving this district. That is, it is possible to deliver 3111
energy to Burlington from Whitewater even though the other lines leading into the Burlington Sub-station should be interrupted.

Likewise, should service to this line be interrupted, the Burlington Sub-station could be served by the lines coming into it from the east and north.

Wisconsin Gas & Electric Company also operates a 26,400 volt circuit between the cities of Whitewater and Watertown. The one which I shall now describe is the more westerly one of the two connecting these cities.

It is thirty-two miles long and follows a route that passes through the city of Fort Atkinson and the community of Johnson Creek, then continues north into Watertown. It

—1,455—

consists of number two copper and number four copper conductors.

Here, again, the conductors are double, although the line operates as one circuit.

Another line between Whitewater and Watertown follows
3113 a more easterly route for a length of twenty-seven miles. It consists of number 1/0 copper conductors carried on wood poles. These two circuits operate in parallel between the cities of Whitewater and Watertown and serve to carry energy in either direction from the power sources at both points.

The power furnished at Whitewater and Watertown comes from the system of Wisconsin Electric Power Company.

A 26,400 volt circuit of Wisconsin Gas extends from the village of Waterloo, which appears in the northwest corner
3114 of Jefferson County, to a point known as Aztalan Junction, which is located at the junction of the transmission lines west of Johnson Creek.

The circuit is fifteen miles long and consists of number four copper conductors carried on wood poles. This circuit serves to carry energy from the system of Wisconsin Gas & Electric Company to the village of Waterloo which operates a municipal distribution system.

Wisconsin Gas & Electric Company also has a distribution sub-station at Waterloo which is used in serving rural territory in that general district.

—1,456—

3115

Another circuit of Wisconsin Gas & Electric Company extends from the line just described at a point south of Waterloo west through the community of Marshall, and south to the village of Deerfield where it feeds a sub-station serving the municipal distribution system of the village.

This circuit is ten miles long and consists of number two solid copper conductors on wood poles.

Another section of 26,400 volt line operated by Wisconsin Gas & Electric Company extends from the sub-station at Waterloo north and slightly east to the community of Reeseville, which does not appear on Exhibit 32, but is located at the junction of the lines southwest from the community of Lowell.

3116

This line is nineteen miles long, including the extension to Lowell, and consists of 3/0 aluminum and 4/0 aluminum conductors carried on wood poles.

Another section of line operated by Wisconsin Gas & Electric Company, but not owned by the company, extends from Watertown northwest to the junction southwest of Lowell. This line operates at 26,400 volts and is leased from Wisconsin Power & Light Company.

3117

Formerly, it was used by Wisconsin Power & Light Company in delivering the 25-cycle 66,000 volt energy which Wisconsin Electric Power Company purchased at Watertown.

Since the termination of the delivery of 25-cycle energy

to Wisconsin Electric Power Company at Watertown, Wisconsin Power & Light Company has had no use for this section of its line and is now leasing it to Wisconsin Gas & Electric Company.

3118 The line is shown on Exhibit 32 as a line operated by Wisconsin Gas & Electric Company, but I wanted to make it clear on the record that the showing of it on the map is not intended to convey the impression that the line is owned by Wisconsin Gas & Electric Company.

Another section of 26,400 volt line which is operated by Wisconsin Gas & Electric Company extends from the community of Jefferson east and south to the community of Rome, where a distribution sub-station is located.

3119 This circuit is eleven miles in length and consists of number two copper conductors carried on wood poles. It furnishes energy which is stepped down to distribution voltages at Rome and is distributed in the community and rural territory surrounding.

A 26,000 volt line extending from the Granville sub-station north and west to the community of Eden is operated by Wisconsin Gas & Electric Company.

This line passes through Menominee Falls, Addison, Theresa, Brownsville, and terminates in a short spur north of the community of Eden.

3120 Its total length is fifty-six miles. The conductors con-

sist of number two copper and number four copper wires which are carried on wood poles for the entire length of the circuit.

This line receives energy from Wisconsin Electric Power Company at the Granville Sub-station and transmits it to the various sub-stations located along the route.

A 26,000 volt line extending from the community of Lomira, which is located in the northeast corner of Dodge

County, to Kewaskum in the northern part of Washington County, is also operated by Wisconsin Gas & Electric Company.

This line is seventeen miles long and consists of number two copper wires carried on wood poles.

From Port Washington, a 26,400 volt line of Wisconsin Gas & Electric Company extends north through Belgium and Cedar Grove, then west through Random Lake and further west to a point north and slightly west of Kewaskum.

This circuit is thirty-four miles long and consists of 3122
number two copper conductors on wood poles for its entire length.

This circuit completes a transmission loop extending from Port Washington through Cedar Grove, through Lomira, Addison, and down to Granville, and makes it possible for Wisconsin Gas & Electric Company to render uninterrupted service to the communities located in this general district. There is also a 26,400 volt line between the city of West

—1,459—

Bend and the village of Addison, both in Washington County.
This circuit is ten miles long and consists of number 3123
two copper, carried on wood poles. A circuit is now under construction between the city of West Bend and the village of Kewaskum, as indicated by the dotted line in Exhibit 32. When this circuit is completed, it will complete another loop in the transmission circuit lying generally between West Bend and Lomira.

Q. What will be the voltage of that? A. The voltage of that line will be 26,400 volts. Wisconsin Gas & Electric Company also operates a 26,400 volt transmission circuit extending from West Bend to Port Washington.

3124 This circuit is eighteen miles long and has number 1/0 copper conductors. It serves as a source of supply for the West Bend district, the energy being received from Wisconsin Electric Power Company at the Port Washington sub-station.

Another transmission line of Wisconsin Gas & Electric Company extends from Port Washington south and west through Grafton, Cedarburg, Thiensville, and Brown Deer, and terminates at the territorial boundary line north of Milwaukee.

3125 This line is twenty-two miles long. The conductors are number two solid copper and are carried on wood poles.

The line is energized at either end at different times, sometimes receiving energy from the Fairmount Sub-station of Wisconsin Electric Power Company which is located

—1,460—

within the Milwaukee metropolitan area, and sometimes receiving energy at the Port Washington end.

It serves the communities of Grafton and Thiensville and adjacent territories.

Wisconsin Gas & Electric Company also operates a trans-
3126 mission line at 26,400 volts between the city of Menominee Falls and the village of Merton, both of which are in the northern portion of Waukesha County.

This line receives energy delivered to the system of Wisconsin Gas & Electric Company at the Granville Sub-station and carries it west through the communities of Sussex and Merton, serving those communities and adjacent areas.

When I gave the total mileage of transmission circuits operated by Wisconsin Gas & Electric Company a few moments ago, I stated that 6.6 miles of such circuits consisted of 13,200 volt line.

This line extends from the Elkhart Lake Sub-station to the city of Kiel located in the southwest corner of Manitowoc County.

This line consists of number two copper conductors carried on wood poles and serves the function of transmitting energy from the Elkhart Lake Sub-station of Wisconsin Gas & Electric Company to the municipal utility at Kiel.

It furnishes the only source of supply for the municipal

system. 3128

Q. And that line is energized how? A. It is interconnected with the system of Wisconsin Electric Power Company through the 132,000 volt sub-station of Wisconsin Gas & Electric Company at Elkhart Lake.

Q. You have indicated, I think, that these lines which you describe, are the principal transmission lines of Wisconsin Gas & Electric Company. A. Yes, they are the principal lines and if one were to add the mileages that I have given as the length of these respective lines, the total mileage would not equal the total mileage operated by Wisconsin Gas & Electric Company because there are some shorter 3129 circuits which I have not described.

The reason I haven't described them is the one I gave in connection with the Wisconsin Electric Power Company; namely, that they are shorter and serve generally as parallel or loop connections between these principal circuits, and that the circuits shown and described indicated in general the complete coverage of the territory made by the transmission system.

Q. What is the circuit mileage in the transmission system of Wisconsin Michigan Power Company? A. Wisconsin

3130 Michigan Power Company operates 845 miles of transmission lines. These lines operate at five different voltages.

—1,462—

147 miles of the transmission lines of Wisconsin Michigan Power Company operate at 132,000 volts. Of those, 137 miles are in Wisconsin and ten miles are in Michigan.

The 66,000 volt lines of Wisconsin Michigan Power Company have a total length of 221 miles, of which 51 miles are located in Wisconsin and 170 miles in Michigan.

3131 The 33,000 volt transmission lines of Wisconsin Michigan Power Company comprise a total length of 211 miles, all of which are in the state of Wisconsin, none being in Michigan.

Wisconsin Michigan Power Company operates 260 miles of 13,800 volt lines which are classified as transmission. Of these lines, 57 miles are in Wisconsin and 203 miles in Michigan.

The company also operates six miles of line at 11,400 volts which are classified as transmission lines.

3132 The total mileage of transmission lines operated by Wisconsin Michigan Power Company is made up of 456 miles in Wisconsin and 389 miles in Michigan, making a total of 845 miles.

Q. Now, will you describe the line running from Appleton easterly and then in the northerly direction on up into Dickinson County? A. The line you have just mentioned is the only 132,000 volt line owned and operated by Wisconsin Michigan Power Company.

—1,463—

Its total length is 147 miles. It was constructed in 1925 for the purpose of furnishing an interconnection between the power plants and transmission facilities in the northern portion of the company's territory and the power plants and transmission facilities in the southern portion.

The length of 147 miles which I have given, includes the tap or spur which extends east from the line in Marinette County to the two hydro-electric plants on the Menominee River.

The upper one of these plants is the Chalk Hill Plant 3134
and the lower is the White Rapids Plant which I described yesterday.

This line was constructed in three sections, one extending from Appleton to Green Bay, the second extending from Green Bay to Amberg, Wisconsin, which is located at the junction of the lines in Marinette County, and the other section extending from Amberg north into Michigan to the high-voltage sub-station at the Twin Falls hydro-electric plant north of Iron Mountain.

The first section extending from Appleton to Green Bay
and the third section extending from Amberg to Twin Falls 3135
consists of a single circuit of number 4/0 aluminum cable, reenforced, supported on one side of double-circuit steel towers.

—1,464—

The second section—before proceeding with the second section, I would like to add that the first and third sections were built by Wisconsin Michigan Power Company and were owned in total by the company at the time they were built.

The second section extending from Green Bay to Amberg consisted of number 4/0 aluminum cable, steel reenforced

3136 conductors, which were installed along with their insulators on the vacant side of a string of double-circuit steel towers which were at that time owned by Northern Electric Company, a predecessor to Northern Paper Mills which I mentioned yesterday as the firm from which the Chalk Hill and White Rapids hydro-electric plants were purchased by the company.

The company at that time leased conductor space from Northern Electric Company and installed its own insulators
3137 and conductors on the towers.

Q. When you say "company," you refer to Wisconsin Michigan Power Company? A. Wisconsin Michigan Power Company leased the conductor space and installed the conductors.

From Appleton to Forest Junction, which is the point east of Appleton at which the two lines part, one going north and one going south, the conductors are supported on the opposite side of the same towers which support the Lakeside-Appleton circuit of Wisconsin Electric Power Company.

3138 Over that length of line, a distance of fourteen miles,

—1,465—

the right-of-way and towers are owned jointly by Wisconsin Electric Power Company and Wisconsin Michigan Power Company.

The conductors and insulators are owned individually by the respective companies.

Now, prior to the construction of this line from Appleton to Twin Falls, the only outlet for the power generated

by the hydro-electric plants in the northern district was the market located within that district. That market was at times rather limited and as a result the hydro-electric plant wasted considerable water which was within their capacity to utilize, simply because they had no outlet for the power that the use of that water would have generated.

When the line was placed into operation, however, an outlet for that surplus of energy was provided and from that time on the plants have been able to utilize all available water within the capacity of their wheels, and have sent 3140
south over this transmission line all portions of their generation which has not been required for distribution in serving the loads in the northern division.

I made a study to ascertain the approximate extent to which the output of the plants in this region was increased through the construction and operation of this line. Using the output of the Twin Falls Plant as an indicator, I found that by comparing the two years preceding 1925 and the two years following 1925, that the output of the Twin Falls Plant

—1,466—

was increased between thirty-five and forty per cent. through 3141
the availability of an outlet for the energy above local requirements.

Now, in making that analysis, I included only the flow available in the Menomonee River up to the capacity of the wheels in the plant. Obviously, any flows above that could not be used by the plant whether it had a load or not. It could only utilize its wheel discharge capacity.

I also recognized the fact that the discharge of the stream within the capacity of the wheels was different in

3142 *Edward H. Schmidtman—By Respondents—Direct*

these four years that I considered in making the comparison, so that the increased output which was indicated by the study recognizes all the variables that were involved between the two years prior to the construction of the line and the two years following the construction of the line so that it can be said that the indicated increase in output is in no way due to any change in water conditions, but is due entirely to a change in market conditions.

3143 Now, using Twin Falls as a sample for all the plants in the area, and it is fairly representative with respect to stream flow characteristics and general relationship of output to stream flow, I find that the annual output which is being now realized in that area in excess of what was realized before, runs in the neighborhood of 30,000,000 kilowatt hours a year.

—1,467—

In 1926 and 1927, the first two years after the line went into operation, the records of Wisconsin Michigan Power Company and Wisconsin Electric Power Company, show that
3144 an average of 32,000,000 kilowatt hours were delivered to Wisconsin Electric Power Company through the operation of this line.

If that line had not been in place, that energy could not have been delivered by the plants and would have been wasted in the form of spilled water.

Q. Isn't it true that this line makes available to the Wisconsin-Michigan territory indicated on the map as centered about Appleton, electric energy generated by all the hydroelectric plants in the Wisconsin Michigan Power Company in the northern territory? A. Yes, it is possible for energy

generated at any of the plants in the northern portion of the Wisconsin Michigan Power Company system to be delivered to Appleton because the electrical connection between those plants and Appleton is continuous.

It would be impossible to say with any degree of certainty that kilowatt hours generated, for instance, at the Pine River Plant were delivered on the bus at Appleton because we can't identify kilowatt hours.

All of the energy generated in that northern system goes into a pool represented by the high-voltage transmission line 3146

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and comes out of that pool at Appleton, but it is entirely possible for energy from any one of those plants to reach the Appleton load.

Q. And the same comment would equally be true of the Diesel engine plant at Iron River? A. In that case, it is possible, but less probable.

Q. Because of the output? A. Because of the nature of operation of the plant. The Diesel Plant at Iron River, as I explained yesterday, is operated only periodically and under sufficient load just to assure the operators that it is in 3147 operating condition and would be available if emergency required it; but the amount of energy it generates is so small that one would be fairly safe in saying that none of that energy would travel as far as Appleton.

It would be absorbed by the local loads.

Q. But it would get into the lines? A. It would get into the lines, yes, and theoretically it would be co-mingled with other kilowatt hours and might go to any part of the system.

Q. And because of the Wisconsin Electric Power Company line from Appleton, running down to Milwaukee, isn't

3148 it also possible that the power generated in this northern territory might come even farther down into the Wisconsin Electric and Wisconsin Gas territory indicated on the map as centering about Milwaukee? A. Yes, that is possible, and

—1,469—

we know it happens. That is, during the seasons of the year when the streams are running high in Michigan, the hydro-electric plants in the northern portion of the Wisconsin Michigan Power Company system operate at full capacity
3149 twenty-four hours a day for as much as three or four or even five weeks in the spring. During that period considerable quantities of energy are generated and are transmitted south over the line to Appleton and then on south into the system of the Wisconsin Electric Power Company.

Q. Now, is there a transmission line running from Twin Falls to Iron River, and is that line indicated on the map, Exhibit No. 32? A. The answer to both parts of your question is yes. The line you mentioned has its eastern terminus at the Twin Falls Plant located on the map north of the city of Iron Mountain.

3150 Beginning at that point and following the line to Iron River, one would cross the Menominee River at the Twin Falls Plant, entering Wisconsin, then following it northwesterly you would pass the community of Florence and then swinging still further to the northwest would cross the Brule River into Michigan to a point south of Alpha.

Then continuing westerly and northerly through the com-

—1,470—

munities of Caspian and into Iron River. That line is a double-circuit line operating at 66,000 volts.

The conductors are of various sizes including number 1/0 aluminum cable, steel reenforced, number 1/0 stranded copper, and number 2/0 stranded copper.

These conductors are supported on double-circuit steel towers.

The line was built in 1912 in the same year in which Peninsular Power Company built the Twin Falls hydro-electric plant. At that time also, Peninsular Power Company built a steam generating station in the city of Iron River. That steam station and the Twin Falls hydro-electric plant con- 3152
stituted the only sources of power of the Peninsular Power Company system at that time and the 66,000 volt line we are discussing was constructed to connect those sources and make them available to each other for coordinated operation.

During the seasons of high flow in the Menominee River and seasons of moderate flow, the Twin Falls Plant was able to generate enough power to carry most of the load of the system and a large part of its generation was transmitted in the direction of Iron River.

During seasons of deficient flow, the Twin Falls Plant 3153
generated as much as could be generated with the water available and its inadequate supply was made up by power generated in the steam plant at Iron River and that make-up energy was transmitted in the direction of Twin Falls.

This line was originally built on what were called black iron towers as distinguished from our present-day galvanized towers.

At that time, it had conductors of smaller sizes than those now in place. As load conditions improved and

greater transmission capacity was required, the conductors were changed to others of larger sizes and in 1928 the Wisconsin Michigan Power Company, which had meanwhile acquired the property of—correction—the Wisconsin Michigan Power Company which had meanwhile succeeded Peninsular Power Company, began a program of reconstructing the towers along the line.

The original towers were rusting rather badly and were considered unsafe, especially in view of the heavy conductors
3155 that had been strung on them. So a program was put under way to replace the old black iron towers with modern galvanized towers.

That program has not yet been completed but it is well along and is still under way. The substitution of the higher grade steel towers for the old iron ones will improve the stability of the line and the management feels that it is a step in the right direction towards increasing reliability of operation at that portion of the system.

Q. Have you given the length of that line? A. I don't
—1,472—
3156 think I did. The line is thirty-six miles long from Twin Falls Sub-station to the Iron River Sub-station.

Q. Now, is there a transmission line to Crystal Falls? A. Yes, there is a line which we refer to as the Crystal Falls Branch Line which extends from the vicinity of Crystal Falls south through the village of Alpha, and then south further a short distance to a point where it connects with the Twin Falls Iron River Line.

The Crystal Falls Branch line operates at 66,000 volts and has a total length of eight and a half miles. This line

was built in 1913 and furnished a supply of high-voltage energy to iron mines and other users in the Crystal Falls region.

As the loads served by this branch line increased, it was necessary to increase the carrying capacity of the line, so the conductors were replaced with others of larger size. As now constituted, the line consists of two circuits of number 1/0 aluminum cable, steel reenforced, from the junction with the Twin Falls-Iron River Line to Alpha and from Alpha to Crystal Falls it consists of one circuit of number 2/0 3158 aluminum cable, steel reenforced. The entire length of the line is carried on steel towers.

Mr. Hamilton: Is this an appropriate time to recess for lunch?

The Examiner: Yes, I think it is. We will recess until 2:00 o'clock.

—1,473—

(Whereupon, at 12:30 o'clock p. m., the hearing recessed until 2:00 o'clock p. m.)

3159

—1,474—

3160 *Edward H. Schmidtman—By Respondents—Direct*

AFTERNOON SESSION

(Whereupon, at 2:00 o'clock p. m., September 10, 1940, the hearing reconvened.)

The Examiner: You may proceed.

EDWARD H. SCHMIDTMAN the witness on the stand at the time of recess, resumed the stand, was examined and testified further as follows:

3161

Direct Examination by Mr. Hamilton (Continued):

Q. I believe you had finished describing the so-called Crystal Falls Branch transmission line. Are there other transmission lines in the territory in and about the Brule River and the Pine River? A. Yes, there are. As indicated on the map, Exhibit 32, there is one line connecting the Pine River hydro-electric plant with the 66,000 volt line extending from Twin Falls to Iron River.

This line was built at the time the Pine River Plant was built in 1922. It is six miles long and consists of two circuits 3162 of number three copper conductors carried on steel towers.

The other line which leads to the south and east from the Pine River hydro-electric plant is a lower voltage line which performs the function of carrying electrical energy to the community of Aurora and other districts in that portion

—1,475—

of the company's territory.

Another 66,000 volt tap line was built from the Brule River Plant to the Iron River-Crystal Falls line in 1919 at the time of construction of the Brule River Plant.

The map shows two lines extending from the Brule River hydro-electric plant, one leading southwest to the community of Florence, and the other leading southwest to a point nearer to the Wisconsin-Michigan boundary line.

The latter one of these two is the 66,000 volt line being described. The former operates at 6600 volts and serves to carry energy from the Brule River Plant to the community of Florence.

The 66,000 volt tap line consists of two circuits of number 1/0 aluminum cable, steel reenforced, carried on steel 3164
towers.

Both the Pine River Plant tap line and the Brule River tap line deliver energy from their respective plants into the 66,000 volt transmission system of Wisconsin Michigan Power Company.

Q. Now, there appears on Exhibit No. 32 a line running from Crystal Falls to Iron River. Will you describe that line? A. That line was built in 1929 for the purpose of forming a loop circuit between Crystal Falls and Iron River and the Iron River-Twin Falls transmission line.

—1,476— 3165

It consists of a single circuit of number two copper conductors carried on wood poles and operating at 66,000 volts.

This line is fourteen miles long.

The loads in the Crystal Falls area had shown considerable growth subsequent to the construction of the Crystal Falls branch line and it was felt that it would be wiser to meet those increasing needs by construction of the line to Iron River than by increasing the capacity of the Crystal Falls branch line.

3166 Q. And from Iron River running in a southwesterly direction, there appears still another line on the map. Will you describe it? A. This line, as shown on the map, leads from the sub-station at Iron River southwesterly into Wisconsin, then west through Phelps, and north back into Michigan, passing through the communities of Land-o-Lakes, and Watersmeet, and terminating at the 66,000 volt sub-station at Bruces Crossing.

This line consists of one circuit of number 1/0 aluminum
3167 cable, steel reenforced, carried on wood poles. The length is sixty-five miles from Iron River to Bruces Crossing.

The purpose of constructing the line, which was built in 1929, was to furnish power to new territory which was being developed by Wisconsin Michigan Power Company at that time.

This line carries energy which it receives at Iron River

—1,477—

up to the Bruces Crossing Sub-station where it is stepped down to lower voltages for transmission and distribution over the lines emanating from that point.

3168 It also furnishes energy to sub-stations located at Phelps, Land-o-Lakes, and Watersmeet.

Q. Will you describe the Twin Falls-Cornell transmission line? A. The 66,000 volt line extending from Twin Falls to Cornell travels in a northerly direction from Twin Falls and then turns east at a point near Sagola, which is not named on the map, continues east through the community of Felch, and then bears southeasterly, terminating at Cornell, where a 66,000 volt sub-station of the Wisconsin Michigan Power Company is located.

This line has one circuit of number 1/0 copper conductors and is carried on wood poles. It has a total length of fifty-two miles.

It was built in 1931 for the purpose of serving new territory that was being developed by the company in the eastern portion of the Michigan electric territory.

It delivers energy to the distribution sub-station at Felch and to the transmission sub-station at Cornell. The Cornell sub-station steps the voltage down to 13,800 volts for delivery to the line which extends to the north and east from 3170
—1,478—
Cornell, with a spur to Perkins and terminating at Trenary.

The Cornell sub-station also supplies energy to a 13,800 volt line which extends to the west along the route of the 66,000 volt line to Cornell, and then turns south connecting with a 13,800 volt line extending east from Iron Mountain and passing through Norway and Loretto, and Spalding, terminating at Bark River.

The latter line is the one to which the Sturgeon River hydro-electric plant shown on the map near the community of Loretto delivers its output at 13,800 volts. That portion 3171 of the output of this plant, which is not consumed on the easterly portion of this 13,800 volt line, is delivered to the sub-station at Iron Mountain and Twin Falls and thence finds its way into the 66,000 volt system or into the 132,000 volt system.

Q. East of the town of Felch on the map appears the line which ultimately runs up to form an interconnection with the Cliffs Power & Light Company. Will you describe that line? A. That line is referred to as the Gwinn Line, inas-

3172 much as the interconnection with the system of Cliffs Power & Light Company is made at a locality named Gwinn.

This line branches from the 66,000 volt line extending between Twin Falls and Cornell. It operates at 66,000 volts and consists of one circuit of number 1/0 copper conductors

—1,479—

carried on wood poles.

The total length of this line is twenty-eight miles. It was
3173 built in 1937 to effect an interconnection between the systems of Wisconsin Michigan Power Company and Cliffs Power & Light Company.

The interchange between these companies through this interconnection makes it possible for Wisconsin Michigan Power Company to obtain energy from Cliffs Power & Light Company for use in its Michigan distribution system and to also furnish Cliffs Power & Light Company with energy generated in the Michigan plants of Wisconsin Michigan Power Company.

Q. Now, have you described all the transmission lines
3174 located generally in this northern territory? A. Yes, I believe I have described all the transmission lines located in this portion of the company's territory. There may be some short lengths which I haven't singled out individually, but I have covered the principal lines in the transmission system of this part of the company's property.

Q. Now, in that portion of the territory served, centering around Appleton, what transmission lines are there? A. The transmission lines in the southern portion of the territory of Wisconsin Michigan Power Company have a total

length of 211 miles of 33,000 volt line, fifty-six miles of 13,800 volt line, twelve miles of which are carried on steel

—1,480—

towers and the remainder on wood poles.

The principal line in this portion of the system is the one shown on the map beginning at Appleton and extending straight north for a distance, then turning northwesterly and resuming its northward travel to the community of Bonduel. At that point the line turns west and north to Shawano. 3176 There it continues westerly and southerly to a point of interconnection with the system of Wisconsin Power & Light Company near the city of Clintonville, which being outside of the territory served by Wisconsin Michigan Power Company, is not located on the map.

From Clintonville, the line continues southerly to the city of New London where interconnection is made with the municipal distribution system. There it turns east and south through the community of Hortonville, and then turns west again returning to Appleton.

This line forms a complete loop—— 3177

Q. (Interposing) It turns east, I think, to Appleton. A. It turns east to Appleton, yes. This line forms a complete loop which, together with the branch lines reaching from it at the same voltage of 33,000 volts, comprise a total length of 156 miles.

This loop is the backbone of the southern transmission system of the company. It consists of copper conductors of various sizes, ranging from number four to 1/0.

—1,481—

3178 One branch which operates at 13,800 volts, connects the sub-station at Bonduel with Wisconsin Michigan Power Company's hydro-electric plant at Oconto Falls.

Another branch operating at 13,800 volts runs west from the junction near the community called Dale, near Appleton, through Readsfield and Fremont, to Weyauwega hydro-electric plant of the Wisconsin Michigan Power Company.

There is another 33,000 volt loop in this portion of the company's transmission system. This loop extends from
3179 Appleton to the south through the cities of Menasha and Neenah and then returns to Appleton by a more westerly route.

The length of this loop is thirteen miles, about half of which is carried on steel towers. The section that is carried on steel towers has been designed to operate at 66,000 volts.

The towers have the proper conductor spacing for that voltage and the insulators for that voltage are in place, but the line is presently being operated at 33,000 volts.

Another 33,000 volt line in the southern portion of the
3180 company's system is the one extending from Appleton easterly and southerly to the community of Hilbert. This line is thirty-six miles long and consists of five miles of number two copper conductors on steel towers, and thirty-one miles of number two and number four copper conductors on wood poles.

—1,482—

I believe I made a misstatement. I meant to say that five miles of this line consisted of number 2/0 copper conductors on steel towers.

3181

Q. Have you given the capacity of the transmission line running from Twin Falls to Appleton? A. I don't remember that I did, but the normal operating capacity of the line—that is, the load which the line will carry under satisfactory conditions of voltage regulation—is between 25,000 and 30,000 kilowatts on the section between Twin Falls and Appleton.

The section betwen Appleton and Lakeside, likewise, has a capacity of approximately twenty-five or thirty thousand kilowatts for this length of line alone, but if the two sections, 3182
namely, the one from Lakeside to Appleton, and from Appleton to Twin Falls, are considered in total, a load of between 15,000 and 20,000 kilowatts is about all the line will carry with satisfactory voltage regulation.

The load-carrying capacity of this line can be increased during heavy load conditions by supplying certain quantities of wattless current from the Appleton steam plant, or by maintaining a high power factor at the Milwaukee end by means of leading current from the power plants there, and that is why I have given the carrying capacity of this line as being about the figures I have given, rather than specific 3183
amounts.

Q. What are the principal transmission sub-stations of

the Wisconsin Electric Power Company? A. The Wisconsin Electric Power Company has only three sub-stations which are classified as transmission. All three of these are shown on Exhibit 32.

One of them is the sub-station at the Lakeside Power Plant. This sub-station consists of two sections. One sec-

tion raises the voltage from the generator voltage of 13,200 to 26,400 volts. This section has a capacity of 60,000 k. v. a. and is used to step up the voltage of that portion of the output of the Lakeside Plant which is sent out through the 26,400 volt lines emanating from the Lakeside Sub-station.

I described some of those lines this morning. Certain others of them are considered distribution lines inasmuch as they lead from the power plant directly into the city of Milwaukee and serve distribution sub-stations which are scat-
3185 tered all over the city to feed the distribution system.

The other section of the Lakeside Sub-station raises the voltage from 13,200 volts to 132,000 volts. This section has a capacity of 240,000 k. v. a. and performs the function of raising the voltage of that part of the output of the Lakeside Plant which is sent out on the 132,000 volt transmission lines.

As the capacities of the two sections of the sub-station would indicate, the latter section handles the major portion of the output of the plant.

—1,484—

Another transmission sub-station of Wisconsin Electric
3186 Power Company is the one located at Granville which I mentioned previously in connection with the operation of the transmission lines.

The Granville sub-station operates between the voltages of 26,400 and 132,000. Its principal function is to step down the voltage of 132,000 volt energy which it receives either from the Port Washington Power Plant or from Appleton or from the Lakeside Plant, to 26,400 volts for delivery to either the line of Wisconsin Gas & Electric Company which leads to Menomonee Falls from Granville, or to the numer-

ous 26,400 volt circuits of Wisconsin Electric Power Company which are supplied by the Granville Station.

The third transmission sub-station of Wisconsin Electric Power Company is the one located at the Port Washington power plant. It, likewise, has two sections, one of 20,000 k. v. a. raises the voltage from 22,000 volts to 26,400 volts. 22,000 volts is the voltage at which the generator in the Port Washington plant operates.

The output of this section of the Port Washington Sub-station is delivered to the 26,400 volt lines of the Wisconsin 3188
Electric Power Company and Wisconsin Gas & Electric Company which connect with the stations.

The other section of the Port Washington Sub-station raises the voltage from 22,000 volts to 132,000 volts. This

—1,485—

section has a capacity of 90,000 k. v. a. and serves to deliver the output of the plant to the 132,000 volt transmission lines which connect with the main transmission system of Wisconsin Electric Power Company.

Q. Those are the three transmission sub-stations. How many distribution sub-stations are there? A. Wisconsin 3189
Electric Power Company has fifty-six distribution sub-stations which has a total combined capacity of 470,147 k. v. a. By the term "distribution sub-station" I mean a sub-station which is used in lowering the voltage of energy from a transmission voltage to a voltage suitable for supply to the distribution system of the company.

Our transmission sub-stations are classified as such because they perform the function of raising the voltage for delivery to a transmission line.

3190 Measured in similar terms, a distribution sub-station is one which transforms energy for delivery to a distribution line.

Now, these fifty-six sub-stations all perform that function. Forty-one of them perform the additional function of converting alternating current energy into direct current energy by means of rotary converters or mercury arc rectifiers, or motor generator sets.

The total capacity of such conversion equipment located
3191 in these forty-one sub-stations is 106,240 k. v. a.

—1,486—

The total transformer capacity of all the sub-stations of Wisconsin Electric Power Company is 970,147 k. v. a.

Q. The sub-stations you have referred to as distribution sub-stations are not shown on Exhibit No. 32? A. Some of them are, but not all of them. In preparing Exhibit 32, we have shown only the sub-stations which are among the larger ones of the company.

The smaller ones have not been indicated because it was felt the map would be made unduly complicated and the
3192 information on it a little too dense for the map to be used conveniently.

If all the sub-stations of Wisconsin Electric Power Company were to be shown, the map would be thoroughly sprinkled with them and I doubt that there would be room within the area of Milwaukee, for instance, to show them all.

Q. What are the principal sub-stations of the Wisconsin Gas & Electric Company? A. The principal sub-stations of Wisconsin Gas & Electric Company are that company's transmission sub-stations, of which there are three.

3193

One is located at Elkhart Lake in the northern portion of the territory served by Wisconsin Gas & Electric Company. This sub-station steps down energy from a voltage of 132,000 volts to 13,200 volts and 4,800 volts.

The transformer bank, delivering energy at 13,200 volts,

—1,487—

furnishes power to the 13,200 volt transmission line extending from Elkhart Lake to Kiel, and the bank transforming to 4,800 volts serves to supply energy for distribution in this portion of the territory of the Wisconsin Gas & Electric Company.

3194

Another of the transmission sub-stations of Wisconsin Gas & Electric Company is located in the city of Kenosha. It is known as the Albers Street Sub-station which I mentioned in connection with the operation of the transmission lines. This sub-station has a capacity of 60,000 k. v. a. and transforms energy from a voltage of 132,000 volts to one of 26,400 volts. The function of this sub-station is to receive high voltage power from the lines of Wisconsin Electric Power Company and transform it to a voltage suitable for delivery to the transmission system of Wisconsin Gas & Electric Company.

3195

The third transmission sub-station of Wisconsin Gas & Electric Company is the one located at Whitewater. This sub-station has a capacity of 10,000 k. v. a. and serves to transform energy from a voltage of 132,000 volts to one of 26,400 volts. It receives high voltage energy from the 132,000 volt transmission system of Wisconsin Electric Power Company and transforms that energy to 26,400 volts for delivery to the three lines of Wisconsin Gas of that

3196 voltage which receive power from the Whitewater sub-station.

In addition to these three transmission sub-stations,

—1,488—

Wisconsin Gas & Electric Company also has thirty distribution sub-stations. These distribution sub-stations are located at various points in the territory served by the company and the principal ones among them have been indicated in Exhibit 32.

3197 The total capacity of the thirty distribution sub-stations is 51,173 k. v. a.

Q. How many transmission sub-stations does Wisconsin Michigan Power Company have? A. Wisconsin Michigan Power Company has twenty-four transmission sub-stations.

These have a combined capacity of 129,025 k. v. a. Eleven of them are located at the power plants of the company and all of the eleven are shown on the map.

Of those located at the power plants, one is at the Twin Falls Station, one at Quinnesec Falls Plant, one at White Rapids Plant, one at Chalk Hill Plant, one at the Brule
3198 Plant, one at the Sturgeon Plant, one at the Pine River Plant, one at the Appleton Power Plant, one at the Weyauwega hydro-electric plant, and one at the Oconto Falls hydro-electric plant.

The other thirteen transmission sub-stations are located at various points on the transmission system of the company and are all shown on the map.

The total capacity of these twenty-four transmission sub-stations—I have given that—is 129,025 k. v. a.

—1,489—

The Wisconsin Michigan Power Company also operates thirty-five distribution sub-stations with a total capacity of 17,930 k. v. a. and 49 other distribution sub-stations which have been constructed for individual customers.

They are classified as customers' sub-stations. These 49 have a combined capacity of 34,236 k. v. a.

May I add the Iron River Sub-station to the list of transmission sub-stations located at power plants of the Wisconsin Michigan Power Company?

Q. Iron River Sub-station being the eleventh in that list? 3200
A. Yes.

Q. What is the extent in line miles of the distribution system of the Wisconsin Electric Power Company? A. Would you repeat that question, please?

(Whereupon, the pending question was read.)

The Witness: Wisconsin Electric Power Company operates a distribution system comprising 2,738 miles of pole line and 173 miles of underground line.

These lengths of line are as of December 31, 1939. 3201
At that date, the system of Wisconsin Electric Power Company was serving 250,770 customers through 273,995 electric service meters.

The distribution system includes 17,511 line transformers having a combined capacity of 268,795 k. v. a.

—1,490—

This extensive system has been carefully designed and constructed so as to maintain high quality of service at minimum investment and operating expense.

3202 The policy of the management with respect to distribution functions, as well as other functions, has been to improve the system and the operating practices as much as would be consistent with good economy and good service.

A number of years ago a program directed toward the limitation of 250-volt direct current service was undertaken. This class of service was the first electric service to be rendered to the public in Milwaukee
3203 and has been continued down to the present time.

Some of that service is still being rendered.

Because of the greater expense of operating the 250-volt direct current system, a decision to minimize the service with the idea of eventually eliminating it entirely, has been carried out.

The direct current area served by Wisconsin Electric Power Company covers a space of between one and two square miles in the center of the downtown district of the city of Milwaukee. The outlines of the area are not definite because there are certain streets
3204 in which the direct current cables were laid in the streets years ago and are still in service while subsequently alternating current lines have been erected on poles in the alleys.

—1,491—

In many of those instances, one customer will take direct current service and his next door neighbor will take alternating current service.

Then, another reason why the outline of the direct current area is not definite is because of the program

which the company is engaged in to minimize that type of service, direct or alternating current customers are located practically all the way through the direct current area. They are being served from a low-voltage network which has been in operation for several years and is being enlarged as rapidly as the increasing demands on it will justify.

It is the policy of Wisconsin Electric Power Company to not add any new customers to the direct current system unless there are technical reasons why 3206
the customer must have that service.

If it is possible to serve him reasonably from the alternating current system, he will not be given the direct current.

Likewise, any present customers who are now taking direct current service and who wish to expand their consumption, are urged by the company to make their expansion in such a way as to utilize alternating current for the additional load.

I stated this morning that the program has been under way for some years for a reduction and even- 3207
tual elimination of 25-cycle service on the system of the Wisconsin Electric Power Company.

—1,492—

That has been carried to the point where we now no longer purchase 25-cycle power from Wisconsin Power & Light Company and the only 25-cycle energy that is now used on the system is that delivered to a few industrial 25-cycle customers and a small amount which is used in converters which convert the 25-cycle energy for railway use.

3208 *Colloquy*

The original use for the 25-cycle energy which was purchased from the Wisconsin Power & Light Company was that of conversion for railway consumption.

As a result of that, a number of the railway sub-stations which are still in operation are equipped to receive 25-cycle energy and inasmuch as the management hasn't felt that it is the time to change over all those 25-cycle sub-stations, it is necessary to continue some 25-cycle generation on the system for those sub-
3209 stations as well as for the few 25-cycle customers that we still have.

The reduction in the use of 25-cycle service has made it possible to take out of service those engine-driven 25-cycle generators at the Commerce Plant and has also made it possible to change over three of the manually operated 25-cycle railway sub-stations to automatic 60-cycle rotary converter installations.

Appreciable economies have been realized by making these changes. Such economies are quite evident from the reduction in the number of pieces of equip-
3210 —1,493—
ment that have to be operated, the number of circuits that have to be provided and maintained, and the amount of different kinds of reserve capacity which must be held in readiness to furnish continuous service to any of these various classes.

That is, service to 25-cycle customers must be validated by 25-cycle reserve capacity.

The same holds true with respect to 250 volt direct current service. A number of separate circuits

have also been eliminated through this standardization of service and we have come to feel that this program for standardizing on 60-cycle service has been in a way, if you please, an integration of class of service.

That is, we have concentrated on one type and are looking forward to the time when that will be not only the predominating type of service on the system, but the only one.

Q. What is the extent in line miles of the distribution 3212
system of the Wisconsin Gas & Electric Company? A. Wisconsin Gas & Electric Company operates a distribution system including 4,740 miles of pole line and 31 miles of underground line. This system serves directly 65,724 customers.

Q. And your figures, again, are at December 31, 1939? A. Yes, they are.

In serving these customers, the company makes use of

72,426 electric service meters and 18,249 line transformers which have a total capacity of 107,727 k. v. a.

The distribution lines of Wisconsin Gas & Electric Com- 3213
pany form a close network within the areas through which its transmission lines pass.

The sub-stations have been located so as to serve the greatest area that could be served economically from given locations, the purpose being economy of construction and simplicity of operation.

Q. None of these distribution lines are shown on Exhibit No. 32? A. No, none of the distribution lines of Wisconsin G & Electric Company are shown.

Q. Or of Wisconsin Electric Power Company? A. Some of the lines shown for Wisconsin Electric Power Company are classified as distribution. They have been shown on the map, as I pointed out previously, in order to indicate the routes by which service is taken to the various communities shown.

Some of the smaller communities are served by lines which, for accounting purposes, have been classified as distribution lines.

Inasmuch as we did not prepare a distribution line map of the systems we felt it desirable to indicate on here those distribution lines which reach communities that are served

within the territory.

A distribution line map drawn on the scale of Exhibit 32 would be almost physically impossible to prepare, because of the closeness of the lines to each other.

The area shown to indicate the city limits of the city of Milwaukee would be colored solid black. The lines would touch each other, and in the area served by Wisconsin Gas & Electric Company in many instances there are as many as a dozen lines traveling in parallel directions within a mile. You can see from that, that with a scale of ten miles to an inch, the lines would be closer together in some places than the cross-hatching on the map.

Q. Will you give the comparable data on the distribution system of the Wisconsin Michigan Power Company? A. The distribution system of the Wisconsin Michigan Power Company includes 3,112 miles of overhead pole lines. None of the distribution lines of Wisconsin Michigan Power Company are carried in underground conduit.

The system serves 36,297 customers through 40,129 electric service meters.

Here, again, the data on length of line, number of transformers, and number of meters applies to the end of the year 1939.

Q. And electric customers, also? A. And electric customers, yes.

—1,496—

The distribution system of Wisconsin Michigan Power Company has been expanded and its capacity increased as 3218
the loads have grown in the communities in the territory served. A number of small electric systems were acquired by the company and merged in 1927.

For the most part, those systems consisted of lines in very poor state of repair, constructed according to very low construction standards, and had to be completely revamped in order to meet the company's service requirements.

In many instances, the entire systems were replaced from end to end. Poles and wire transformers, and especially in the case of street lighting equipment, where many of the 3219
units were the old-fashioned tin-plate reflectors with bare electric bulbs, complete replacements were made by the company.

The same situation applies to the small systems acquired from time to time by Wisconsin Electric Power Company and Wisconsin Gas & Electric Company, and after the acquisitions had been made and the systems revamped to meet the construction standards and service standards of the companies, the quality of service was materially improved

3220 *Edward H. Schmidtman—By Respondents—Direct*

and the volume of service taken by the customers showed material growth.

Wisconsin Michigan Power Company has also carried on a vigorous rural electrification program which has resulted in the construction of many miles of rural distribution lines.

These rural lines reach into all portions of the electric

—1,497—

service area of the company except some of the unsettled
3221 sections in the upper pensinsula of Michigan where there are extensive areas of logged-over forest land with few or no inhabitants.

The remarks I made about the vigorous rural electrification program of Wisconsin Michigan Power Company applies with equal force to Wisconsin Electric Power Company and Wisconsin Gas & Electric Company.

In the case of the latter company, particularly, an active program for increasing the use of electricity by rural customers has been carried out over a period of years and the use of the service in the territories of Wisconsin Gas &
3222 Electric Company and Wisconsin Electric Power Company is among the highest in the state of Wisconsin, and likewise among the highest in comparable areas in the United States.

Q. What is the book value of the gas utility property of the Wisconsin Gas & Electric Company? A. As of December 31, 1939, the book value of the gas plant in service of Wisconsin Gas & Electric Company was $11,819,234.00.

Q. That figure is before depreciation, is it? A. Yes, that figure is before depreciation.

3223

Q. Will you describe very briefly the gas production equipment or plants operated by Wisconsin Gas & Electric Company? A. Wisconsin Gas & Electric Company oper-

—1,498—

ates gas plants at three different locations.

There are two plants in the city of Racine, one of which produces coke oven gas and has a rated capacity of 8,500 m. c. f. gas per day, and the other of which produces water gas and has a rated capacity of 2,225 m. c. f. per day.

3224

The two other plants of Wisconsin Gas & Electric Company are located in the cities of Waukesha and Fort Atkinson. They are both water gas sets, the one at Waukesha having a rated capacity of 800 m. c. f. per day and the one at Fort Atkinson having a rating of 250 m. c. f. per day.

The Waukesha and Fort Atkinson Plants and the Racine water gas plant are not in regular operation.

The coke oven gas plant at Racine produces the gas which is transmitted and distributed over the gas system of Wisconsin Gas & Electric Company.

3225

Q. Will you locate the gas holders owned by Wisconsin Gas & Electric Company? A. Wisconsin Gas & Electric Company owns twelve gas holders whose location is shown on Exhibit 32. One is at Racine, and is designated by the open square containing the diagonal cross. This one—or rather I should say there are four holders at Racine, all designated by this one symbol.

These four holders have a combined storage capacity of 4,550 m. c. f.

—1,499—

At Kenosha there is another gas holder with a capacity of 1,000 m. c. f. It is also shown on the map.

The gas holder shown at Fort Atkinson, or rather, the symbol shown at Fort Atkinson, represents two small gas holders with a combined storage capacity of 130 m. c. f.

The symbol at the city of Watertown represents two holders also with a combined capacity of 190 mcf.

The gas holder symbol shown at Waukesha designates three individual holders with a composite capacity of 650 m. c. f. These gas holders are used regularly in the operation of the company's gas transmission and distribution system.

3227 The ones at Racine, of course, are used to store the gas immediately upon its manufacture. Those at the other points on the system are used as equalizers to carry the local gas consumption peaks on the various portions of the system during the day.

Q. There appear then, to be five locations and a total of twelve holders in the system? A. Yes, that is right. There are a total of twelve holders in the system located at five different points within the gas service territory.

Q. Will you state the number of miles of gas transmission mains operated by the Wisconsin Gas & Electric Company?

3228 A. Wisconsin Gas & Electric Company operates a gas trans- —1,500—
mission system comprising 280 miles of high-pressure transmission mains.

The location of these mains is shown in Exhibit 32 by the dashed line colored in yellow. 16.7 miles of these mains are three inches in diameter. 114.5 miles are four inches in diameter. 94.6 miles are six inches in diameter. 40.4 miles are eight inches in diameter, and 13.8 miles are ten inches in diameter.

3229

This gas transmission system utilizes in its operation six gas pumping stations located at various points on the system. These pumping stations have a combined capacity of 600 m. c. f. of gas per hour. They are necessary in the operation of the system in order to maintain the pressure in the lines and to offset the loss of pressure resulting from friction due to the flow of the gas through the pipes.

The high-pressure mains for the most part are laid underground along highways or along railroad lines, and they come over the ground only where the lines cross deep ravines or some other obstruction of that kind that makes it simpler to come overground than stay underground.

3230

For a considerable portion of the distance between Racine and Milwaukee, the high-pressure gas transmission line of the Wisconsin Gas & Electric Company is laid inside the electric interurban right-of-way of the Milwaukee Railway and Transport Company by putting the line in that right-of-way and paying a rental based upon the cost of the right-

—1,501—

of-way, the Wisconsin Gas & Electric Company was able to effect a considerable saving in right-of-way costs along that section of the line because that is a relatively heavily settled district and the people in that area are quite land conscious or right-of-way conscious, and rights-of-way in there are extremely expensive.

3231

The Examiner: Let us have a little recess.

(Whereupon a short recess was taken.)

—1,502—

The Examiner: You may proceed.

3232 *Edward H. Schmidtman—By Respondents—Direct*

By Mr. Hamilton:

Q. Had you finished your description of gas transmission lines? A. Yes, I have.

Q. Will you state the extent of the gas distribution mains operated by Wisconsin Gas & Electric Company? A. The gas distribution system of Wisconsin Gas & Electric Company includes both low pressure mains and high pressure mains. Of low pressure, cast-iron mains, ranging in size
3233 from three inches to thirty inches diameter, the system includes 1,537,299 feet.

Other low pressure mains made of wrought iron or steel and varying in diameter from one inch to sixteen inches comprise a total length of 325,638 feet.

The high pressure mains, all of which are steel pipe, ranging in size from ¾ inch to 4 inches constitute a total length of 1,358,961 feet.

This latter class of high pressure mains are those indicated—correction—the total combined length of all distribution mains is a trifle over 610 miles.

3234 Q. Now, can you state the number of services which the Company furnishes? A. The gas distribution system of Wisconsin Gas & Electric Company, in addition to the mains by which it distributes the gas, also includes 58,174 service

connections. A gas service connection is the length of pipe which runs from the gas main in the street to the property, for the purpose of delivering gas to the individual customers premises.

Of the total number of services in the gas distribution system of Wisconsin Gas & Electric Company, 49,393 are

in active use and extend all the way from the main to the customer's meter.

8,781 of the services of the Company extend only from the main to the curb and are held for future use. These curb services are installed at the time the mains are laid, because it is more economical to install them at that time, when the men and equipment are on the job, than it is to leave them until later, when the installation of a service from the main to the curb might involve digging up the pavement.

The average number of customers served during the year 3236
1939, by the gas distribution system of Wisconsin Gas & Electric Company, was 50,774. Of these, 47,696 were residential customers, using gas for cooking and water heating. 185 of them were residential customers using gas for space heating. 2,765 were commercial customers using gas for purposes other than space heating—largely for cooking and water heating—and 30 were commercial customers using gas for heating purposes.

—1,505—

98 of the total were customers making use of gas for 3237
industrial purposes.

These customers were served through a total of 51,702 gas service meters, of which 51,659 are regular meters and 43 are prepayment meters—the type in which the customer must deposit a coin before he can take any gas.

Q. What is the book value of the gas utility property of Wisconsin Michigan Power Company? A. The book value, before depreciation, of the gas utility plant in service of Wisconsin Michigan Power Company, as of December 31, 1939, was $2,373,255.00.

Q. And its production equipment? A. This gas utility plant includes production equipment which consists of a gas plant located in the city of Appleton.

The plant has a total capacity of 1,860 M. C. F. per day, of which 900 M. C. F. per day capacity is from coal gas, and 960 M. C. F. is from a water gas set.

Q. And its holder capacity? A. Wisconsin Michigan Power Company also has four gas holders, three of them located at the location of the Appleton gas production plant,
3239 with a storage capacity of 651 M. C. F., and one located in the city of Neenah, having a capacity of 200 M. C. F.

The gas production equipment at Appleton and the gas

holder at Neenah are connected by means of a high pressure wrought iron transmission main.

The total length of this main is 6.4 miles, of which one mile has a diameter of four inches, and 5.4 miles has a diameter of six inches.

Q. And the Company's distribution mains are how extensive? A. The low pressure distribution mains of Wisconsin Michigan Power Company vary in size from below one
3240 inch to 16 inches in diameter. These have a total length of 531,899 feet.

The high pressure mains, varying in size from one inch or less to eight inches, have a total length of 104,973 feet. The total length of all distribution mains, both high pressure and low pressure, in the gas distribution system of Wisconsin Michigan Power Company, is nearly 121 miles.

Q. And again, if you will, the number of services which the Company maintains? A. There are a total of 10,595 gas

services connected to the gas distribution mains of Wisconsin Michigan Power Company.

Of these, 10,310 are in active use and 285 are main-to-curb services held for future use.

These services deliver gas to customers who, during the year 1935, averaged 9,234 in number.

—1,507—

Q. 1939? A. 1939 is correct.

The residential consumers constituted 8,742 of this number, the commercial consumers 463, and the industrial consumers 29. 3242

These 9,234 gas customers were served through 9,257 gas service meters.

Q. Turning, now, very briefly, to the heating business furnished by Wisconsin Electric Power Company, can you state the book value of this plant in service devoted to the heating business? A. The book value of the plant in service of Wisconsin Electric Power Company, devoted to the steam heating business, as of December 31, 1939, was $2,996,436.00 before depreciation. This figure includes the book value of the property used entirely in the heating business, as well as in apportionment of the book value of the power plants which generate steam for heating purposes, as well as producing electricity for distribution. 3243

The distribution mains—steam distribution mains—of Wisconsin Electric Power Company have a combined length of 111,857 feet, and they serve a total of 984 steam heating customers.

Of these customers 32 are residential and 952 are commercial.

—1,508—

The figures I have just given on length of mains and number of customers apply to the end of 1939.

Q. Will you give comparable data for the steam heating business of Wisconsin Gas & Electric Company? A. Wisconsin Gas & Electric Company operates a small steam heating business in the city of Waukesha. The book value of the heating plant in service as of the end of 1939, again including apportionment of power plant investment allocated to the generation of steam for heating operations, was $193,
3245 935.00.

The distribution mains in Waukesha, at that same date, had a total length of 7,115 feet and served a total of 204 customers, of whom 40 were residential and 164 were commercial.

Q. The heating business is confined to Waukesha, is it? A. Yes, it is.

Q. In their operations, are the generating and transmission systems of the three companies coordinated? By "three companies", I mean Wisconsin Electric Power Company, Wisconsin Gas & Electric Company, Wisconsin Michigan
3246 Power Company. A. Yes. The operations of the power production and transmission facilities of all three companies are well coordinated.

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The plants of each company are operated on a somewhat divisional basis. That is, they are operated primarily in meeting loads of the systems served by the respective company's plants, and further than that, whenever there is a possibility of coordinating the operations of the plants of one company with the operations of the plants of the other, ad-

vantage is taken of those opportunities in order to give the most effective over-all operation of the entire system.

Q. Have you data as to the percentages of kilowatt hours generated, taking the statistics of the three companies together? A. Yes, I have. In the year 1939 the power generation facilities of the three companies of the Wisconsin Michigan group produced a net output of 1,504,874,726 kilowatt hours.

Of that total, generation in the steam power plants of Wisconsin Electric Power Company contributed 1,277,278,- 3248
698 kilowatt hours, or 84.9 per cent. of the total for the three companies.

The plants of Wisconsin Gas & Electric Company delivered a net output of 1,241,584 kilowatt hours, or slightly less than one-tenth of one per cent. of the total.

The plants of Wisconsin Michigan Power Company produced 226,354,444 kilowatt hours of net generation, which was 15 per cent. of the combined total.

—1,510—

The generation which I have just given for the plants of Wisconsin Electric Power Company was all produced by 3249
steam. That generated by the plants of Wisconsin Gas & Electric Company is entirely hydro-electric generation, produced in the three hydro-electric plants of that company.

The net output of Wisconsin Michigan Power Company is made up of three types of generation. The steam plants of that company delivered a net output of 15,342,445 kilowatt hours.

The hydro-electric plants of Wisconsin Michigan Power Company generated 210,977,404 kilowatt hours net, and the

3250 Iron River diesel engine plant produced a net output of 34,595 kilowatt hours.

Q. On the combined generating systems, which plant carries the base load? A. The base load of the combined three company system is carried by the Port Washington plant of Wisconsin Electric Power Company.

This plant is the most efficient steam plant serving the combined system, and, because of that fact, is assigned the duty of carrying the base or continuous portion of the loads
3251 on the system.

The Port Washington plant, as I have previously explained, is rated at 80,000 kilowatts, but it operates most efficiently at a load of 64,000 kilowatts.

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For that reason it is operated steadily, whenever the loads on the systems will permit, at a demand of very close to 64,000 kilowatts.

Q. In the operation of this combined generating system what is the function of the Commerce Street and East Wells Street plant of the Wisconsin Electric Power Company? A.
3252 The Commerce Street and East Wells Street plants carry a portion of the loads on the electrical system of the companies, which is determined very largely by the requirements for steam for the heating system.

Their output is relatively small—or, rather, it has been, in the past—and has been largely limited to those months of the year in which steam is required for distribution in the downtown heating system.

With the new units going into service, however—that is, the new boiler plant and generating unit at East Wells

Street, and a somewhat similar installation at Commerce Street—these stations will be used to carry increasing amounts of the electrical load in the future, inasmuch as they will be equipped to exhaust into condensers and will be able to generate electrical power beyond that which is limited by the requirements for heating steam.

The Port Washington plant carries the base load. The Commerce Street and East Wells Street plants carry electrical load according to the heating load.

—1,512— 3254

The Racine plant, as I have explained, is not in regular operation but is started periodically and operated under load to make sure it is in operating condition.

Now, after those plants have made their contribution to the power requirements of the system, the Lakeside plant is used to carry the rest of the system demands, speaking now of the system of Wisconsin Electric Power Company.

At the same time the small generation of the hydro-electric plants of Wisconsin Gas & Electric Company is delivered into the system.

Under this arrangement of operations it can be seen that 3255
the load carried by the Lakeside plant is the most variable part of the load on the entire system, and because of those variations the Lakeside plant suffers the loss of economy that always accompanies the picking up and dropping off of loads on steam-driven units.

The Lakeside plant, because of its greater capacity, and because of the large number of units installed there, is best able of all the plants of the Company to carry these fluctuating loads.

Units in the plant range in size from 20,000 to 60,000 kilowatts. The 7,700 kilowatt units are not used individually without using the 60,000 kilowatt units with them.

To the greatest possible extent the loads on the Lakeside plant are carried on the high pressure equipment, because

—1,513—

of its greater efficiency, and the low pressure units are utilized only when the load on the plant goes to a point beyond the capacity of the high pressure units.

3257 The total generation in the power plants of Wisconsin Electric Power Company in 1939, under this general program of operation, was divided as follows:

Lakeside plant, 840,813,115 kilowatt hours.
Port Washington plant, 391,411,055 kilowatt hours.
East Wells Street plant, 34,471,800 kilowatt hours.
Commerce Street plant, 9,831,053 kilowatt hours.
Racine plant, 751,675 kilowatt hours.

Making the total net generation, which I have previously
3258 given for Wisconsin Electric Power Company.

Q. I think you indicated sufficiently the fact that Wisconsin Gas & Electric Company does practically no generation of its own. Could you give the figures on net kilowatt hour output of whatever generating capacity is operated by that company? A. Yes, I can. The net output of the three hydro-electric plants of Wisconsin Gas & Electric Company in 1939 was 1,241,584 kilowatt hours.

In terms of the total energy requirements of 207,451,690 kilowatt hours, of the system of Wisconsin Gas & Electric

Company in that year, this generation constituted about six tenths of one per cent.

—1,514—

Q. Within the generating units of Wisconsin Michigan Power Company what principles are followed in distribution of the operating generating capacity? A. The principal rule that is followed by the operators of Wisconsin Michigan Power Company in connection with power generation and transmission is to make the power plants of that company serve the entire needs of the system as completely as possible and to obtain from those hydro-electric plants as much output as can possibly be obtained with the quantities of water that are available under existing conditions. 3260

The output of the hydro-electric plants of Wisconsin Michigan Power Company is supplemented by generation at the Appleton steam plant of that company and also by a very small amount of generation at the Iron River diesel plant.

Under the water conditions obtaining in 1939 and the load conditions on the system, the hydro-electric plants of that company generated a total net output of 210,977,404 kilowatt hours. 3261

The Appleton steam plant produced 15,342,445 kilowatt hours, and the Iron River internal combustion plant produced 34,595 kilowatt hours.

The plants in the northern portion of the Company's system are operated so as to make that section of the system as nearly self-supporting as possible, with respect to power supply.

—1,515—

Such operation eliminates unnecessary transmission of large quantities of power over the line from Appleton to the north, and consequently keeps transmission losses at a minimum.

During the seasons of high water, as I have pointed out, these plants produce more energy than the local market requires, and the surplus is sent south over the high voltage transmission line.

During seasons of low run-off the reverse is true—that
3263 is, the shortage of power in the northern division is made up by steam power sent north from Appleton, or by power generated at the two hydro-electric plants in the Appleton division.

Q. You have indicated a number of points at which interconnections exist between the transmission systems of Wisconsin Electric Power Company and the Wisconsin Gas & Electric Company.

In the actual operations of the two systems, are the transmission systems of the two companies closely coordinated and closely connected in operation? A. Yes, they are
3264 so closely connected and so closely coordinated as to operation that, in an operating sense, they are only one system.

I have pointed out at how many points the two systems are interconnected, and, in many instances, those interconnections are nothing more than a change in ownership of line.

—1,516—

Wisconsin Electric Power Company normally delivers to the system of Wisconsin Gas & Electric Company monthly quantities of energy ranging up to 16 or 17 million kilowatt hours.

These deliveries are made at 28 different locations and quantities of the energy, delivered to Wisconsin Gas & Electric Company through these 28 points of contact, are returned in part to the system of Wisconsin Electric Power Company at more than twenty different points.

Nine of the points at which delivery is made to Wisconsin Gas & Electric Company are also points at which energy is returned to the system of Wisconsin Electric Power Company from that of Wisconsin Gas & Electric Company.

Now, this flow and reflow of energy between the two systems is the sort of thing that one would find if he undertook to set out any portion of any one system and trace the flow of energy into and out of that section. 3266

The energy returned to the system of Wisconsin Electric Power Company from that of Wisconsin Gas & Electric Company consists of a part of the same energy which was previously delivered to the system of Wisconsin Gas & Electric Company at some other point,—that is, at any one instant, when energy is flowing back into the system of Wisconsin Electric Power Company, it is also flowing into the system of

 3267

Wisconsin Gas & Electric Company somewhere else.

Except for the small generation in the hydro-electric plants at Watertown and West Bend, the energy furnished by Wisconsin Electric Power Company is the only energy that Wisconsin Gas & Electric Company has, so, in billing Wisconsin Gas & Electric Company for the energy delivered to it, Wisconsin Electric Power Company summarizes the deliveries at those 28 different locations, and the number of those points changes from time to time as the systems are

3268 *Edward H. Schmidtman—By Respondents—Direct*

extended and changed, and also summarizes the energy returned at those twenty-odd different locations, determines the net amount delivered to Wisconsin Gas & Electric Company, and bills that amount.

Now, the interchange of energy back and forth between these two systems suggests that not only are the facilities of Wisconsin Electric Power Company used in taking energy to Wisconsin Gas & Electric Company, but likewise that the facilities of Wisconsin Gas & Electric Company are used
3269 in carrying that energy to some other point and returning it to Wisconsin Electric Power Company.

I have made a rather—well, shall we say—offhand inspection of the transmission lines of the two companies and have determined a number of sections of line of Wisconsin Gas & Electric Company which are used at some time or other in carrying energy from the system of Wisconsin Electric Power Company and back to it.

—1,518—

To that extent, Wisconsin Electric Power Company is
3270 actually utilizing the facilities of Wisconsin Gas & Electric Company in serving its own load.

Q. Transmission facilities? A. Transmission facilities, yes.

Q. Can you illustrate that—— A. (Interposing) Yes, I can.

Q. (Continuing) ——interflow of energy? A. Yes. According to the monthly billings which are made to Wisconsin Gas & Electric Company, it is a very common thing for that Company to deliver back to Wisconsin Electric Power Com-

pany certain quantities of electrical energy at the Burlington sub-station, which appears on Exhibit 32.

The energy which is delivered to Wisconsin Electric Power Company at that point must come from either Kenosha or Whitewater, because Wisconsin Gas & Electric Company has no other power sources serving the Burlington sub-station.

That means that the line of Wisconsin Gas & Electric Company between Kenosha and Burlington, and the line between Whitewater and Burlington, are both at some time or other being used in transmitting energy of Wisconsin Electric Power Company to the Burlington sub-station. 3272

The Examiner: Well, it could conceivably come, in case you need it, from your interconnection to the

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south there—from the Wisconsin Power & Light Company—could it not?

The Witness: No, sir. It couldn't. Because the interconnections there—— You refer to the ones in Walworth County? 3273

The Examiner: That is right.

The Witness: Those interconnections are points at which delivery only is made.

Wisconsin Power & Light Company has no power source in what they call their Lake Geneva division in this district in Walworth County, and they rely largely upon the system of Wisconsin Gas & Electric Company to furnish the power for that section.

3274 *Colloquy*

The Examiner: I see. It is an outgoing interconnection—not an incoming?

The Witness: That is right.

The Examiner: So far as your system is concerned?

The Witness: That is correct. That is entirely the case.

Now, your question indicates to me that I haven't made entirely clear just how it happens that this energy flows back into the system of Wisconsin Elec-
3275 tric Power Company. It isn't because Wisconsin Electric Power Company needs the energy, as your comment indicates might have been the case, but it simply comes about as a result of voltage conditions

—1,520—

on the systems.

You might consider, for purposes of analogy, that the system pictured on the map is built up of pipe lines carrying water, and that water is pumped into it at the points where the power plants are located, and that there are outlets at the sub-stations—
3276 faucets, through which it may be drawn off.

Now, if there is a higher pressure in the line at Whitewater than there is at Burlington, water will flow from Whitewater to Burlington to relieve that inequality of pressure.

The same thing applies with respect to voltage on the lines. If there should be a load in the vicinity of the Burlington sub-station, which lowers the voltage at that point sufficiently, energy will flow to that point from some other source of energy where the voltage is higher.

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The Examiner: And similarly, suppose that there should be some cause, or, for some cause or other, some substantial outage at one of your generating plants of Wisconsin Electric Power Company, would energy immediately start to flowing south from the Wisconsin Michigan generating plants?

A. It might and it might not. Under ordinary circumstances power does not flow south into the system of Wisconsin Electric Power Company from that of Wisconsin Michigan Power Company.

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The Examiner: Is it connected up so it could, in case of any emergency that required extra energy?

—1,521—

The Witness: Yes, it is connected up so that it could, but what I was going to say was that the power sources on the system of Wisconsin Electric Power Company are so much greater than those on the system of Wisconsin Michigan Power Company that we consider the interconnection between the two with respect to emergency service as being more for their benefit than for ours.

3279

The Examiner: Flow the other way——

The Witness: (Interposing) Yes.

The Examiner: (Continuing)—as a practical proposition?

The Witness: Yes, that is right. But the interconnection through between the companies is a complete and continuous one.

The Examiner: Excuse me, Mr. Hamilton.

3280 *Edward H. Schmidtman—By Respondents—Direct*

By Mr. Hamilton:

Q. Can you illustrate the extent of that flow and reversal of current by reference to data of a specific recent month? A. Yes, I can. I don't have with me the latest billing that has been made between the two companies, but I do have the one for the month of May 1940, which may be considered a representative month.

In that mohth, Wisconsin Electric Power Company delivered to Wisconsin Gas & Electric Company a total of

3281 —1,522—

17,156,399 kilowatt hours of electrical energy.

Wisconsin Gas & Electric Company returned to the system of Wisconsin Electric Power Company 751,105 kilowatt hours of that energy.

Q. And the billing, as a result of those transactions would be a net billing? A. Yes, a net billing for 16,405,294 kilowatt hours.

Q. Less the amount of current returned? A. That is the net figure.

3282 Q. I see. You have already made the subtraction? A. Yes. Likewise the billing covers demands imposed upon the system of Wisconsin Electric Power Company and recognizes the demands represented by the energy delivered back to that system, so that the billing to Wisconsin Gas & Electric Company covers net demands as well as net energy.

There are a number of other points—or, rather, sections—on the system of Wisconsin Gas & Electric Company, which transmit energy and return it to the system of Wisconsin Electric Power Company.

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To run over them rather briefly, energy returned to Wisconsin Electric Power Company at Cedar Grove substation is delivered to Wisconsin Gas & Electric Company at Port Washington.

Energy received from Wisconsin Gas & Electric Company —1,523— at Brown Deer is delivered to Wisconsin Gas & Electric Company at the point where that company's line enters the territory of Wisconsin Electric Power Company.

Likewise, energy received from Wisconsin Gas & Electric 3284
Company at the latter point is delivered to that company at Brown Deer.

The flow occurs on that line in both directions. The net result in any one month, of course, being in only one direction.

Energy is received from the system of Wisconsin Gas & Electric Company at North Lake, which is located in the northwesterly part of Waukesha County.

In the vicinity of North Lake it is also received from the system of Wisconsin Gas & Electric Company at two points not designated on the map, where two sand and gravel com- 3285
panies take service.

The energy received at those three points from Wisconsin Gas & Electric Company is delivered to that company over at the Granville substation, and the Wisconsin Gas & Electric Company line from Granville over to the vicinity of Merton, where the line changes ownership, is utilized in serving the customers of Wisconsin Electric Power Company in the vicinity of North Lake substation.

Energy is received from Wisconsin Gas & Electric Company at the Belgium substation located near the shore of

3286 *Edward H. Schmidtman—By Respondents—Direct*

Lake Michigan, north of Port Washington, and also at an-

—1,524—

other railway sub-station south of Belgium, which takes service from the same line of Wisconsin Gas & Electric Company.

That energy is delivered to Wisconsin Gas & Electric Company at Port Washington.

Energy which is delivered to Wisconsin Gas & Electric Company at Kenosha is sometimes returned in part at Racine, utilizing the line lying between those cities.

3287 Likewise, power delivered to Wisconsin Gas & Electric Company at the Whitewater substation is returned in part to Wisconsin Electric Power Company up at Watertown on the other side of Jefferson County.

That delivery of energy takes place over one or both of the circuits of Wisconsin Gas & Electric Company, connecting Whitewater and Watertown.

In addition to these sections of line which I have described there are nine points on the distribution system of Wisconsin Gas & Electric Company where customers of Wisconsin Electric Power Company receive service. They

3288 receive that service directly from the lines of Wisconsin Gas & Electric Company, but, inasmuch as they lie within the territory of Wisconsin Electric Power Company, they are considered as customers of the latter company, and the energy delivered to them is a return of energy previously delivered to Wisconsin Gas & Electric Company.

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Q. And will you state those points? A. I beg your pardon?

(Last question read by the reporter.)

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The Examiner: Can you state those points?

The Witness: The designations I will give refer to certain roads and townships not named on Exhibit No. 32. One of them is at the Mill Road in Milwaukee County; one is in the township of Milwaukee, one is in the township of Merton; one in the township of Brookfield; one in the township of Pewaukee; one in the township of Troy in Walworth County; one in the township of Merton; one in the township of Oconomowoc; and one is located at the switching station of Wisconsin Electric Power Company at Saukville east of Port Washington.

3290

These points are fairly well scattered over the vicinity through which the boundary line between the territories of the two companies pass.

By Mr. Hamilton:

Q. Can you state the demand which the requirements of Wisconsin Gas & Electric Company place upon the generating capacity of Wisconsin Electric Power Company? A. The demands placed upon the system of Wisconsin Electric Power Company, in serving the power needs of Wisconsin Gas & Electric Company, vary from month to month, but in the month of May 1940, for which I have here the billing

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data, the gross demand delivered by Wisconsin Electric Power Company was 44,664 kilowatts.

The demand represented by energy returned to the system of Wisconsin Electric Power Company amount to 684 kilowatts, leaving a net billed demand of 43,970 kilowatts.

3292 *Edward H. Schmidtman—By Respondents—Direct*

I would like to add at this point that the interflow of energy between the systems of these two companies occurs as a result of load variations on different parts of the combined system.

The flow is not restricted. No attempt is made to control it at any one or any other point, and no distinction is made between the requirements of Wisconsin Gas & Electric Company and the requirements of Wisconsin Electric Power Company in deciding how to operate the transmission sys-
3293 tem. The customers of one company are regarded as being just as important as the customers of the other company.

What I am trying to bring out is that we make no distinction as to whether generation is going to the system of Wisconsin Gas & Electric Company or whether it is going to the system of Wisconsin Electric Power Company. The two, in fact, are one system.

Q. And, necessarily, any load forecasting is based on taking into account the requirements of Wisconsin Gas & Electric Company? A. Yes. Any load forecasting that is made, any analyses relating to available capacity or capac-
3294 —1,527—
ity requirements, or quantities of energy estimated for budget purposes, or any other purposes, includes the requirements of the customers of Wisconsin Gas & Electric Company on an equal basis with that of the customers of Wisconsin Electric Power Company.

Further than that, load forecasting is usually carried out on a composite system basis, also taking into consideration the power generation facilities and power requirements of the system of Wisconsin Michigan Power Company.

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The power production and transmission systems of these companies are considered as a unit with respect to power production and power transmission.

We regard this as just one power pool into which all companies contribute their generation and from which they all draw their requirements.

It is still true, however, as I stated before, that good operation requires that certain sections of the system serve themselves as fully as they can, but, so far as the operations of one section of the system or one company's property may affect another section of the system or another company's property, the operations and welfare of the combined group is what controls.

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The Examiner: I think we made it clear that there is no incoming energy to your system on the south. Now, how about on the north here, where Cliffs

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Power & Light Company interconnects? Is there incoming energy at those connections.

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The Witness: Yes, sir. There is. At the point east of Manistique, Michigan, the line shown on Exhibit 32 extending from Cooks over to the interconnection with Cliffs Power & Light Company, energy is received from that company. All of the energy distributed on that line, and on a lower voltage line extending from Cooks south, is purchased from Cliffs Power & Light Company.

Wisconsin Michigan Power Company has no generating facilities on that section of line.

The Examiner: I recall you stated that in a previous part of your examination.

The Witness: Yes, sir. I did.

The Examiner: It is disconnected from your system?

The Witness: Yes, sir. And the same is true of the isolated line in Marquette County, terminating on the west at Michigamme.

The Examiner: Well, with those two exceptions,
3299 the three companies develop all of the energy that they distribute?

Mr. Hamilton: I think the witness has indicated one or two other points where, in Wisconsin Michigan territory, for example, I believe there are purchases from Kimberley-Clark at certain times.

—1,529—

The Examiner: That is true.

By Mr. Hamilton:

Q. In order to make your point clear, Mr. Schmidtman,
3300 may I ask you about the point of interconnection in Rock County? I don't know that you specifically mentioned that —interconnection at that point with the system of Wisconsin Power & Light Company. Which is the direction of the flow of that energy? A. Energy flows in both directions through that interconnection. The interconnection was established for the purpose of providing 25,000 kilowatts of emergency service to either of the companies.

Since the establishment of this interconnection, emergency service has been taken by Wisconsin Power & Light Company

3301

on different occasions but has not as yet been taken by Wisconsin Electric Power Company.

However, the interconnection also permits the delivery into the system of Wisconsin Electric Power Company of limited quantities of surplus hydro-electric energy from the system of Wisconsin Power & Light Company.

Such energy is generated in the hydro-electric plants of Wisconsin Power & Light Company on the Wisconsin Power river, the Kilbourn and Prairie du Sac plants being the principal hydro-electric plants operated by Wisconsin Power & Light Company.

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Some of the surplus hydro-electric energy of Wisconsin Power & Light Company is delivered into the system of Wisconsin Electric Power Company over that connection, and I should add also, in order to make the statement complete, that in every interconnection of this kind, due to fluctuations in voltage at the two ends of the interconnection, such as those that cause the interflow of power between the systems of Wisconsin Electric Power Company and Wisconsin Gas & Electric Company, there is a class of energy called drift energy, which drifts back and forth from one system to the other, in either direction, fluctuating at times, depending on voltage conditions at opposite ends of the line.

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That power is measured and is billed at a rate which recognizes its incidental occurrence and undependable character.

There is still another type of energy that flows through an interconnection of that kind—that is, where the switches are always closed and there are two operating systems, one at each end—that is called stabilizing energy. That is the

energy that is required to flow in a line to keep the wires charged.

In electrical terms, a high voltage transmission line serves in one respect somewhat like a large condenser, and, even though it may be delivering no energy for power purposes,

—1,531—

it will still draw some current from the supply end.

That current has to be supplied in order to keep the line charged and to keep it in stable condition as one of the
3305 branches of the electric operating system.

That energy is called stabilizing energy, but it does not do any good to either company except to keep the line in operation.

Mr. Hamilton: Mr. Examiner, we have reached a good stopping place.

The Examiner: We will recess, now, until ten o'clock tomorrow morning.

(Whereupon at 4:30 p.m., the hearing was recessed until 10:00 a.m. the following morning.)

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Vol. IV

TRANSCRIPT OF RECORD

Supreme Court of the United States

OCTOBER TERM, 1942

No. ~~721~~

THE NORTH AMERICAN COMPANY, PETITIONER,

vs.

SECURITIES AND EXCHANGE COMMISSION

ON WRIT OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE SECOND CIRCUIT

PETITION FOR CERTIORARI FILED FEBRUARY 10, 1943.

CERTIORARI GRANTED MARCH 1, 1943.

United States Circuit Court of Appeals

FOR THE SECOND CIRCUIT

October Term, No. ——

THE NORTH AMERICAN COMPANY,
Petitioner,

v.

SECURITIES AND EXCHANGE COMMISSION,
Respondent.

TRANSCRIPT OF RECORD

TESTIMONY

Volume IV

(Pages 1103 to 1591)

ON PETITIONS FOR REVIEW OF ORDERS OF SECURITIES AND EXCHANGE COMMISSION

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BEFORE THE

Securities and Exchange Commission

Docket No. 59-10

IN THE MATTER

of

THE NORTH AMERICAN COMPANY, *et al.*

Hearing Room 1102,
Securities and Exchange Commission Building,
Washington, D. C.,
Thursday, September 12, 1940.

Met, pursuant to adjournment, at 10:00 o'clock a. m.

Before: W. W. SWIFT, *Trial Examiner.*

Appearances:

CHARLES S. HAMILTON, JR., of Sullivan & Cromwell, 48 Wall Street, New York City, Attorneys for the Respondents.

RALPH C. BINFORD, Attorney for the Securities and Exchange Commission.

MISS E. H. CALKINS, Attorney for the Securities and Exchange Commission.

3310 *Edward H. Schmidtman—By Respondents—Direct*

PROCEEDINGS

The Examiner: The hearing will come to order.

EDWARD H. SCHMIDTMAN resumed the stand and testified further as follows:

Direct Examination by Mr. Hamilton (Continued):

Q. At the close of the hearing yesterday afternoon, Mr. Schmidtman, you were testifying as to the sale of power by
3311 Wisconsin Electric Power Company to Wisconsin Gas & Electric Company. Have you any statistics as to the extent of that sale over a period of years? A. Yes, I have. During the last ten years—that is, from the year 1930 to 1939 inclusive, Wisconsin Gas & Electric Company has purchased not less than 96½ per cent of its total power requirements from Wisconsin Electric Power Company each year.

In the year 1936, Wisconsin Gas & Electric Company purchased 99.6 per cent. of its total power requirements from Wisconsin Electric Power Company. Since 1934, Wisconsin Gas & Electric Company has purchased no energy from any
3312 system other than Wisconsin Electric Power Company, but during the years prior to that, it purchased up to a maximum of 2.3 per cent. of its annual energy requirements from Wisconsin Power & Light Company.

During the ten-year period just mentioned, the annual

generation in the plants of Wisconsin Gas & Electric Company furnished not more than 1.3 per cent. of the total energy input to the system of Wisconsin Gas & Electric Company.

Q. In any given year? A. In any given year.

Q. Now, in order to make those figures precise, could you give the percentages for the years 1936 and subsequent? A. In the year 1936, Wisconsin Gas & Electric Company generated .4 of 1 per cent. of its requirements and purchased 99.6 per cent. from Wisconsin Electric Power Company.

In 1937, the generation amounted to .6 of 1 per cent. and the purchases to 99.4 per cent. of requirements.

In 1938, generation was 1 per cent. and purchases 99 per cent.

In 1939, as I have testified previously, generation was 3314
.6 of 1 per cent. and purchases from Wisconsin Electric Power Company 99.4 per cent.

Q. Is the purchase of this power from Wisconsin Electric Power Company advantageous to Wisconsin Gas & Electric Company? A. Yes, it is; most advantageous. By being able to obtain its power from Wisconsin Electric Power Company, Wisconsin Gas & Electric Company enjoys the advantages of the high economy and low investment in the large generating stations of Wisconsin Electric Power Company.

It also receives the benefits of the use of the high voltage 3315
transmission system of Wisconsin Electric Power Company which system is used in carrying energy from the power generating stations to the points of delivery on the system of Wisconsin Gas & Electric Company.

The use of this transmission system makes possible the efficient delivery of the large blocks of power which Wisconsin Gas & Electric Company receives at its major points of contact with the system of Wisconsin Electric Power Company. If this source of power were not available to Wiscon-

sin Gas & Electric Company, that company would have to put in one or more power plants of its own to furnish its power needs.

I testified yesterday that the net demand represented by sales to Wisconsin Gas & Electric Company amounted to a net figure of 43,970 kilowatts in May of 1940.

In other months, it is higher than that and in still other months it runs below that somewhat, but in order to carry loads of this magnitude in power plants of its own, Wisconsin Gas & Electric Company would have to have stations with an aggregate capacity of not less than 60,000 kilowatts, I should say.

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Steam generating capacity of that magnitude would cost in the neighborhood of $6,000,000.00 or more, assuming a unit cost of $100.00 per kilowatt for the smaller plants, and the transmission system that would be required in carry-

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ing the energy from such plant or plants to the present transmission facilities of the company would represent additional substantial investment.

3318 Q. Your figure of 60,000 kilowatts is based on the fact that reserve capacity would be necessary in the operation of its own system? A. Yes, it is.

Any electric utility system would be required, in order to assure reasonable continuity of service, to have reserve generating capacity somewhat in excess of its maximum load on the system.

Wisconsin Gas & Electric Company, in receiving power service from Wisconsin Electric Power Company, is able to have such service continuity guaranteed by virtue of the

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reserve capacity carried in the generating plants of Wisconsin Electric Power Company.

The power is sold to Wisconsin Gas & Electric Company at a rate which covers costs of power production and fixed charges and operating expenses on all facilities used in rendering the service.

This service is rendered under a special rate which is filed with the Public Service Commission of Wisconsin and which is available to any public utility which would take equivalent or greater quantities of energy and would have 3320
equivalent or greater demands on the system of Wisconsin

Electric Power Company.

That is, the rate is not limited to Wisconsin Gas & Electric Company but rather is available to any electric utility system which could qualify as to magnitude of loads. This rate includes a demand charge schedule which specifies $18.00 per kilowatt per year for the first 20,000 kilowatts of demand and $15.00 per kilowatt per year for all demands in excess of 20,000 kilowatts.

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The energy steps of the rate begin with seven-tenths of a cent per kilowatt hour for the first 1,000,000 kilowatt hours taken within a month. The next 6,000,000 kilowatt hours per month are billed at sixty-five-hundredths of a cent; the next 8,000,000 kilowatt hours per month are billed at six-tenths of a cent per kilowatt hour, and all consumption in excess of 15,000,000 kilowatt hours per month is billed at fifty-five-hundredths of a cent per kilowatt hour.

In 1938, the average cost of this service to Wisconsin Gas & Electric Company amounted to eighty-eight-hundredths

of a cent per kilowatt hour including both energy charge and demand charge.

Q. These billings you have spoken of are net billings, are they? A. Yes, they are net billings.

Q. And, therefore, do not include energy delivered Wisconsin Gas and returned by Wisconsin Gas to its system?

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A. That is right. They cover the net energy delivered to Wisconsin Gas & Electric Company for resale to its cus-
3323 tomers. The power service which is rendered Wisconsin Gas & Electric Company by Wisconsin Electric Power Company for use in the gas plant and other operations of Wisconsin Gas & Electric Company is billed at regular filed rates for the classes of service under which the service is rendered.

That energy is not included in the billings under what we call the general power contract, the rates of which I have just given, which is intended to apply only to the power sold to Wisconsin Gas & Electric Company for resale to its customers.

Q. Is the amount of energy which Wisconsin Gas &
3324 Electric Company may take under this filed rate restricted in any way by contract or otherwise? A. No, there is no restriction whatever on the amount of energy or the magnitude of demand which Wisconsin Gas & Electric Company may take from the system of Wisconsin Electric Power Company.

If Wisconsin Gas & Electric Company should experience a marked increase in power requirements, Wisconsin Electric Power Company would stand ready to install such additional power generation and transmission facilities as would be required in serving that increased load.

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The contract specifies no limits and the spirit of the

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arrangement contemplates no limits on the extent of the service which Wisconsin Gas & Electric Company may take from Wisconsin Electric Power Company.

Q. Is there any characteristic of the territory of Wisconsin Gas & Electric Company which makes that territory particularly adapted to this source of power supply? A. Yes, there is, and that characteristic is its geographical shape and position with respect to the territory and system of Wisconsin Electric Power Company.

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Reference to Exhibit 32 will show that the territory of Wisconsin Gas & Electric Company lies generally in the form of an irregular ring or rim around the south, west and north sides of the territory served by Wisconsin Electric Power Company.

This relationship of territories makes it most economical for both territories to be served by a system generally radiating from power sources somewhere near the center of the right-hand edge lying along Lake Michigan.

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If Wisconsin Gas & Electric Company were deprived of its present power source, namely, the system of Wisconsin Electric Power Company, it would be faced with a problem of locating power plants capable of serving this ring of territory, and it is quite probable that the company would find it necessary to install at least two plants because one plant located in any portion of the territory would have to deliver

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energy substantial distances in order to serve the entire electric service territory of the company.

Q. Thereby losing the advantages of operations of large units? A. Yes, entirely so. The relationship of these territories makes it most advantageous for both systems—or rather, the combined systems—to be served from one system of power generation facilities.

Q. You have testified as to the interchange between Wisconsin Electric Power Company and Wisconsin Michigan Power Company. Is this interchange of this interconnection of benefit and advantage to Wisconsin Michigan Power Com-
3329 pany? A. Yes, it is. I have explained that Wisconsin Michigan Power Company finds itself, during flood seasons, in possession of potential electrical energy in excess of its own system requirements and that in seasons of low flow it is in need of additional stand-by energy.

This interconnection fills both of those needs and I may say that this interconnection is the only means available by which those needs could be filled for Wisconsin Michigan Power Company.

Q. Now, will you explain that point? A. Other electric utility systems with which Wisconsin Michigan Power Com-
3330 pany now has or could establish interconnections intended to perform the functions of the present interconnection with

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Wisconsin Electric Power Company, are located in territory similar to that in which Wisconsin Michigan Power Company operates.

These other systems also have considerable hydro-electric generating capacity and they also have, during the flood seasons of the year, surplus quantities of hydro-electric energy which they would like to sell.

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Since they have a surplus at the time Wiscor 1 Michigan Power Company has a surplus, obviously they could furnish no outlet for the surplus power of Wisconsin Michigan Power Company.

Likewise, in seasons of low flow, these neighboring companies are in need of all their own steam generating capacity to bolster up their deficient supply of hydro-electric capacity and at those times of the year they are not in a position to furnish Wisconsin Michigan Power Company any help that it might need.

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The presence of a large market in the Milwaukee district and surrounding areas, and the magnitude of the loads served in that territory makes it possible for Wisconsin Electric Power Company to absorb that surplus hydro-electric energy and to furnish the needed steam power during seasons of drought.

I have mentioned that Wisconsin Michigan Power Company has interconnections with certain customers who operate hydro-electric plants of their own. These hydro-

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electric plants of the customers experience the same periods of surplus and shortage as are experienced by the hydro-electric plants in this part of the state in general.

In furnishing stand-by service to these customers and in taking off their hands the surplus hydro-electric energy which they have, Wisconsin Michigan Power Company is rendering them the same type of service which it is receiving from Wisconsin Electric Power Company and it can render that service to them on the terms at which it is doing it only because of the fact that it has an outlet for the surplus hydro-

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electric energy it receives from those customers and has a source of stand-by steam energy which it furnishes to them.

Now, when I refer to a source of stand-by steam energy I am not unmindful of the fact that Wisconsin Michigan Power Company does own and operate a 20,000 kilowatt steam generating station at Appleton. This steam generating station is operated to carry full load at certain times of the year but, as I will explain subsequently, operations at that plant are minimized to those times when it is actually needed
3335 and can not be supplanted by steam power from the south for economy reasons.

Q. Would you say, then, that the existence of the interconnection prevents the waste of surplus hydro-electric

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energy? A. Yes, definitely, it does, and in preventing that waste it conserves coal that would otherwise be burned in the plant of the Wisconsin Electric Power Company in carrying the loads which it is able to carry by dovetailing the surplus hydro-electric energy into its own power supply.

Q. Is the interchange between the two companies of bene-
3336 fit to Wisconsin Electric Power Company? A. Yes, it is. Wisconsin Electric Power Company, of course, is called upon to regulate the operation of its own power plants in order to absorb the surplus hydro-electric energy received from Appleton.

In doing that, the loads on the steam generating stations must be reduced. Usually such reduction of load results in some loss of economy because it may require the placing of uneconomical loads on certain steam generating units.

The rate which is paid for the surplus hydro-electric

energy recognizes the fact that some loss of economy results from the use of that energy.

That is, the remaining loads on the steam plants are generated at slightly higher heat consumption than was the case before the hydro-electric energy was introduced into the system.

For that reason, the rate which is paid for the surplus

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hydro-electric energy is something less than the actual cost of coal consumed in generating power in the steam plants of 3338 Wisconsin Electric Power Company.

This interchange of power between the two systems is carefully coordinated through the operations of the load dispatchers of the two companies, and by such coordination the loss of economy in the steam plants of Wisconsin Electric Power Company is minimized, while, at the same time the greatest possible use is made of the available energy from the hydro-electric plants.

Q. Are there other advantages to Wisconsin Michigan Power Company which you haven't mentioned? A. Yes, there is a very real advantage which accrues to Wisconsin Mich- 3339 igan Power Company through this type of operation, which results from the manner in which the load is interchanged during periods of low flow.

I have explained that during such periods, the water power plants are incapable of delivering enough power to carry the loads on the system of Wisconsin Michigan Power Company as a whole and that steam power is sent up to Appleton to supplement that inadequate supply.

So far, we have spoken simply in terms of kilowatt hours, but the schedule by which those deliveries are made results

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in substantial advantage to Wisconsin Michigan Power Company.

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I pointed out yesterday that Wisconsin Michigan Power Company serves a number of paper mills and other industries in the Appleton area which generate a part of their own power requirements by means of water wheels operating from water in the Fox River.

When the flow in the Fox River drops to low levels,
3341 these mills are unable to operate their water-driven equipment because of insufficient water in the stream. They then call upon Wisconsin Michigan Power Company to make up that shortage in power, thus imposing on the system of the company a greater load than they impose upon it at any other time of the year.

Now, this increased load comes at a time when the hydro-electric plants of the company are usually at their lowest output levels. So here we have a combination of what frequently turns out to be the maximum annual demand on the system of the company occurring in the middle of the
3342 summer when the hydro-electric plants are least able to carry the load.

This situation is handled by scheduling operations in such a way that the hydro-electric plants in Michigan shut down at night to such extent as they can do so and still discharge necessary quantities of water in the streams.

Some of them, as I have pointed out, are not able to accomplish any considerable degree of manipulation of stream flow because of requirements of riparian owners downstream and also because of conservation requirements.

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 3343

The plants which are able to operate on this peaking cycle store water at night and use that water during the day time in carrying the day time peaks in the northern division and at the same time sending such portions of their power as are in excess of northern division requirements south over the line to Appleton.

In periods of extreme shortage of water, energy is not sent south to Appleton in any considerable quantities, but the water is retained for use in that division so that it will be unnecessary during periods of ponding water to send 3344 energy north over the line.

The transfer back and forth over the line of large quantities of energy is minimized in order to reduce transmission losses.

Now, then, at night, when the plants in the northern division are operating at reduced loads and are impounding water, the loads on the southern division are carried by means of what we call "dump steam energy" delivered from the plants of Wisconsin Electric Power Company over the Milwaukee-Appleton transmission line.

3345

This dump steam energy, as a result of this cycle of operations, is delivered at night when the loads on the system of Wisconsin Electric Power Company are at their lowest, and, consequently, at a time when it is considerably advantageous to build up those loads in order to maintain

efficient operating conditions in the steam plants.

Because of the character of this dump steam energy, with respect to time of day and with respect to its effect upon the loads of Wisconsin Electric Power Company steam

plants, it is sold to Wisconsin Michigan Power Company at a rate which recognizes the character of the energy.

The rate which is charged for dump steam energy is one-third of a cent per kilowatt hour and is based on increment costs of generating such power in the steam plants of Wisconsin Electric Power Company.

The availability of this dump steam energy to Wisconsin Michigan Power Company enables that company to utilize more economically the kilowatt hours represented in the
3347 water flowing in the streams at its hydro-electric plants in the northern division, and to also minimize the flow of energy over the transmission lines of the northern division.

The rate of one-third cent per kilowatt hour at which dump steam energy is delivered to Wisconsin Michigan Power Company at Appleton is appreciably below the production cost of generating energy in the Appleton steam plant and enables Wisconsin Michigan Power Company to obtain energy of that kind at a cost less than it would experience if it generated it in its own plant.

At the same time, as I have pointed out, it improves
3348 —1,548—
operating conditions at the plants of Wisconsin Electric Power Company permitting the realization of higher economy in those plants as well.

Q. While we are on the general subject of the method in which the operations of these hydro-electric plants are synchronized, would you explain the studies that were made on the movement of waves in water-flow in the territories of the northern section of Wisconsin Michigan Power Company? A. Yes, I will.

Q. And relate the significance of those studies to the actual operations of the hydro-electric system? A. Yes.

The type of operation which I have described, involving the ponding of water at one time of day and the release of it through water turbines at another time of day, obviously causes fluctuations in the quantities of water discharged by the streams below the plants.

While water is being ponded, the flow in the stream below is reduced to the amount of water which is being permitted to pass the plant and progressively downstream it is 3350
increased by the contributions of the tributaries which flow into the river.

When the plants are put into operation, the discharge is increased by the amount of water released through the turbines.

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The discharge during periods of ponding is less than what would normally be the flow of the stream at that time and the discharge during the periods of operation is more than that normal flow at that time. 3351

These fluctuations in discharge result in the formation of flow-waves in the stream. When the turbines are put into operation, the flow in the stream is sometimes nearly double what it was immediately before the wheels began carrying load.

That increased quantity of water moves downstream in the form of a wave which is definitely measurable as to magnitude, rate of travel, and the period of time which it takes that wave to disappear within a given stream bed.

3352 On the Menominee River, a number of hydro-electric plants are located, several in addition to those operated by Wisconsin Michigan Power Company. Many of these plants have relatively small reservoirs above the dams and are unable to absorb without loss of water such waves as those I have just described.

This makes it necessary in carrying on these operations to give consideration to the owners of plants located on the streams below the plants at which the peaking operations are
3353 desired to be carried out.

I explained that the waves from the Brule River plant are discharged into the pond of the Twin Falls Plant. The

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Twin Falls Plant has a relatively large pond above the dam and its upper levels are of sufficient capacity to absorb the short duration waves resulting from the peaking operations at the Brule River Plant.

Likewise, the peaking operations at the Pine River Plant discharge flow waves into the Pine River which are still appreciable at the mouth of the stream where it flows into
3354 the Menominee River.

Immediately below that point is located the hydro-electric plant of the Ford Motor Company and in order to not cause the quantities of water delivered to the Ford plant to result in a spilling of water at that point and the wasting of the energy represented by that water, the Twin Falls plant is operated so that the trough created by the partial shutting down of the Twin Falls Plant will reach the pond of the Ford plant at the same time that the surge from the Pine River Plant reaches it.

3355

By carefully gauging those quantities of water—that is, the magnitude of the water withheld at Twin Falls and the quantity of water discharged at the Pine River Plant—the effect on the pond above the Ford dam is imperceptible and no waste of water results from that type of operation.

It has been discovered that discharges from the Pine River Plant take six hours in flowing down the river to reach the Menominee, but that discharges from the Twin Falls Plant

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which is located immediately at the upper reaches of the 3356
Ford pond, will affect the level of the Ford pond immediately.

For this reason, the operations of the Twin Falls Plant and the Pine River Plant are scheduled so that when the wave from the Pine River Plant has been traveling six hours, the turbines at the Twin Falls Plant will be shut down in proportion to the quantity of water released at the Pine River Plant six hours earlier.

Likewise, when the Pine River Plant is taken off the peak and is put back into a pounding period, the Twin Falls Plant operators stand ready to begin discharging water at Twin Falls six hours later. 3357

This consideration of flow-waves naturally enters into the operation of all of the plants which have ponding capacity sufficient to permit peaking operations. Such operations are carried on at the Chalk Hill Plant.

Here, again, Wisconsin Michigan Power Company has another hydro-electric station—the White Rapids Plant—immediately downstream, with a pond of sufficient capacity to equalize the irregularities of flow resulting from the peaking operations at the Chalk Hill Plant.

3358 The White Rapids pond does not have as great a ponding capacity as the Chalk Hill pond has but it doesn't need as large a capacity because, when the Chalk Hill plant is operated on, say, an eight-hour-a-day peaking cycle, so that it

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discharges in eight hours the entire flow of the stream at that point, which is received in twenty-four hours, the White Rapids Plant, by operating through the entire twenty-four hours, doesn't need a ponding capacity of more than two-
3359 thirds that of the Chalk Hill Pond because it is discharging during the same eight hours that it is receiving water from Chalk Hill and merely has to store the water which it is going to discharge in the remaining sixteen hours or two-thirds of the day.

Nature seems to have been very foresighted when the topography at these two sites was formed, because, although the White Rapids pond is smaller than the Chalk Hill pond, it is still large enough to accommodate the peaking operations to as great an extent as it has been considered desirable give proper recognition to the rights of others, and has put
3360 to carry them on the Chalk Hill.

Q. The matter of flow-waves has been subject to considerable study and investigation by the companies? A. Yes, it has. The companies have participated in the study of flow waves on other rivers in Wisconsin.

These studies have been made in conjunction with the representatives of other electric systems which operate hydro-electric plants on streams in different parts of the state.

Q. Have the results of the studies, as far as your own

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companies are concerned, been the effecting of economies in operations of the hydro-electric system? A. The study of wave phenomena on the streams on which Wisconsin Michigan Power Company operates hydro-electric plants have served as a guide in scheduling the peaking and regulating operations I have just described.

The economies resulting from those operations are substantial and, while the study of the peak discharges has not increased the value of such operations it has made it possible for the company to carry them on in such a way as to 3362
the company on firm ground with respect to the use of these characteristics of its plants.

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Q. Now, returning again to the interchange between Wisconsin Electric Power Company and Wisconsin Michigan Power Company, does that interchange of energy involve energy other than dump hydro energy? A. Yes, it does. The interchange arrangement between the two companies also provides for the furnishing of firm power to Wisconsin Michigan Power Company, and the furnishing of emergency power to that company. 3363

Firm power is described in the contract and is regarded by the operators of the companies to be power delivered during the daytime hours, during the normal peak season of Wisconsin Electric Power Company.

That power is called firm because it is taken from the system of Wisconsin Electric Power Company during such hours and such seasons as Wisconsin Electric Power Company is likely to have its own peak demands and, as a result, might be in need of the greatest amount of its own generating facilities.

3364 This is distinguished from dump power, which is delivered during the hours of the day when the demands on the facilities of Wisconsin Electric Power Company are low and when there is a margin of capacity which can be utilized in delivering such dump power, but firm power deliveries might coincide exactly, as to time of occurrence, with the peak demands of the loads on the systems of Wisconsin Electric Power Company and Wisconsin Gas & Electric Company.

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3365 Firm power is delivered to Wisconsin Michigan Power Company upon its specific day-to-day and hour-by-hour request. That is, if firm power is delivered at a certain hour today and is discontinued, pursuant to dispatcher's orders, at another hour, similar deliveries will not be made tomorrow unless it is requested.

Under those conditions firm power is delivered to Wisconsin Michigan Power Company at a rate including a demand charge of $15.00 per kilowatt per year, and an energy charge of one-half cent per kilowatt hour, which is adjusted according to a coal factor, recognizing the changes in cost of
3366 coal at the steam plants of Wisconsin Electric Power Company.

The contract also provides for the furnishing of emergency power to Wisconsin Michigan Power Company. The amount of emergency power which Wisconsin Electric Power Company holds itself ready to deliver is limited only by the capacity of the interconnection facilities.

This capacity is not a definite figure but it is believed that up to possibly 25 or 30 thousand kilowatts of capacity could be delivered to Wisconsin Michigan Power Company over these facilities.

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The charge for emergency service is one cent per kilowatt hour, and the minimum charge requires that the company calling for emergency service must take such service for at least one hour at the maximum demand imposed.

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If it does not take service equivalent to one hour's use of the maximum demand, it is required to pay for that amount of energy nevertheless.

Emergency service is also available to Wisconsin Electric Power Company from Wisconsin Michigan Power Company up to the limit of the latter company's ability to furnish it, and at the same rate.

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Q. What effect does the existence of this source of emergency power have on the requirements of Wisconsin Michigan Power Company for reserve capacity? A. It practically eliminates the need for reserve capacity on the system of Wisconsin Michigan Power Company, because of the availability of emergency service and the availability of the dump steam service.

Wisconsin Michigan Power Company is carrying loads which are approaching fairly close to the total load-carrying capacity of its power generating facilities. It can do that safely because of its position with respect to this interconnection which will furnish emergency service in case of the outage of any of its facilities.

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Q. Will you indicate the savings which are effected by both companies by reason of the interchange? A. During the year 1938, which was the year in which the present contract provisions for the interchange of dump hydro-electric power and dump steam power, emergency power and firm

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power, was executed, Wisconsin Michigan Power Company delivered to Wisconsin Electric Power Company 57,703,000 kilowatt hours of surplus hydro-electric energy at Appleton.

Wisconsin Michigan Power Company, in the same year, purchased from Wisconsin Electric Power Company 16,467,500 kilowatt hours of dump steam energy.

Recognizing the cost which Wisconsin Michigan Power Company would have incurred in generating an equivalent amount of steam energy in the Appleton plant, it is estimated
3371 that that company saved $81,702.00 in the use of dump steam energy from Wisconsin Electric Power Company. I have given you the wrong figure there. That figure should be $21,184.00. The $81,702.00 is the amount by which the revenue received by Wisconsin Michigan Power Company for the dump hydraulic energy exceeded the estimated increment cost of generating that hydro-electric energy.

The sum of these two figures, which amounts to $102,886.00 therefore represents the estimated amount by which Wisconsin Michigan Power Company benefited in 1938
3372 through the generation and sale of its surplus hydro-electric energy and through the purchase of dump steam energy.

Now, as for Wisconsin Electric Power Company, it is estimated that the revenue received for the dump steam energy delivered to Wisconsin Michigan Power Company at Appleton exceeded the actual incremental cost of producing

that energy by $10,181.00.

The saving which Wisconsin Electric Power Company realized through the use of the surplus hydro-electric energy from Appleton is estimated at $27,535.00.

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That estimate recognizes the price actually paid for that surplus hydro-electric energy as well as the cost of generating such energy in the power plants of Wisconsin Electric Power Company, after making adjustment for the reduced economy resulting from the use of that surplus hydro-electric power.

The total estimate benefit to Wisconsin Electric Power Company amounts to the sum of these two figures, or $37,716.00.

The combined saving to both companies during that year amounts to $140,602.00, according to these estimates.

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Now, I mention these as estimates, because, when one attempts to calculate how much it would have cost to do something that wasn't done, no matter how carefully the calculation is made there are bound to be some elements of estimate involved.

These figures are derived from the operating records of the companies, including production economy, and are as close as we can come to a quantitative measure of the savings realized through this interchange operation.

Q. Before we leave this point, is the Appleton steam

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plant of Wisconsin Michigan Power Company as efficient as the Port Washington or Lakeside plants of Wisconsin Electric Power Company? A. No. It is not anywhere near as efficient as either the Lakeside or Port Washington plant.

The Appleton plant has four 5,000 kilowatt units, which are relatively small. They are older units and don't have as high operating efficiency as those at Lakeside or Port Washington.

Q. Isn't it a fact that three of those units were installed before Wisconsin Michigan Power Company became affiliated with Wisconsin Electric Power? A. Yes, that is true One of the present units was installed in 1920 and two of them in 1917, yes.

Q. So that the high standards of construction now prevalent in the system were not applied to the construction of those plants? A. No, they weren't. The present high standards of construction probably hadn't been conceived by
3377 that time, and the fact that the Appleton plant has a lower operating economy than that of the large stations of Wisconsin Electric Power Company is no reflection on the people who built the Appleton plant nor the people who are now operating it. It is just an older plant and isn't as efficient as the modern ones, and the interchange operation between the companies makes it possible to take advantage

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of the higher efficiency of the large stations of Wisconsin Electric Power Company and make less extensive use of the less economical machines in the Appleton plant.

3378 Continuing with the answer to your question, Mr. Hamilton, I have covered the savings that were realized in 1938. In 1939, operations were continued on a similar basis with respect to the interchange, and Wisconsin Michigan Power Company delivered 49,256,500 kilowatt hours of dump hydro-electric energy to Wisconsin Electric Power Company at Appleton.

In the same year Wisconsin Electric Power Company delivered to Wisconsin Michigan Power Company 9,597,000 kilowatt hours of dump steam energy.

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The estimated savings resulting from this interchange amounts to $85,579.00 for Wisconsin Michigan Power Company, and $43,796.00 for Wisconsin Electric Power Company, making a total of $129,375.00 for the two companies together.

The interchange which has taken place thus far in 1940 indicates that the savings in this year will run into the same order of magnitude as those realized in 1938 and 1939. We haven't made complete estimates on it. We are going to wait for that until the year is over. 3380

These savings, as may be seen, are quite substantial and show that the joint operation of the facilities of the two

companies is advantageous.

Q. You have spoken of the existence of a source of emergency power to Wisconsin Michigan Power Company arising out of the interconnection. Can you illustrate the importance to Wisconsin Michigan Power Company of the existence of that source? A. The importance of the emergency service to Wisconsin Michigan Power Company can best be illustrated, perhaps, by a specific example. 3381

On July 17, 1940, Wisconsin Michigan Power Company was delivering between 15,000 and 20,000 kilowatts of surplus hydro-electric energy to the 132,000-volt sub-station at the Twin Falls plant in Michigan.

At 10:40 in the evening of that day, a storm took the transmission line between Twin Falls and Appleton out of service, and that, of course, removed the source of power which was furnishing the surplus hydro-electric energy to Wisconsin Electric Power Company and which was also carrying substantial load in the Appleton territory. These

3382 loads, being deprived of their source from Twin Falls, were immediately and automatically shifted to the line between Appleton and Milwaukee, and the power plants of Wisconsin Electric Power Company immediately picked up the load. The flow of power in the Milwaukee-Appleton line was instantly reversed and energy began flowing into the system of

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Wisconsin Michigan Power Company in the Appleton district, from the Milwaukee power plants.

3383 At 11:07, the line between Twin Falls and Appleton was restored to service and the flow of energy in the Appleton Milwaukee line was again reversed, resuming its previous direction.

Now, this instance shows how important the emergency service connection between Wisconsin Electric Power Company and Wisconsin Michigan Power Company can be to the latter company.

Had that connection not been in place, loads in the southern portion of the territory of Wisconsin-Michigan Power Company would have had to be dropped until the 3384 Appleton steam plant could have been brought into operation sufficiently to pick it up.

From 10:40 to 11:07—27 minutes—it is doubtful that enough units in the Appleton district could have been into service within that length of time to have picked up the load by the time the service was restored on the transmission line.

I should have stated, when I was describing the emergency service, that this service is available automatically, as indicated by this example, and is not withheld except on

request, as in the case of firm steam power and dump steam power.

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The emergency service is intended to maintain continuity of service on the systems of the companies, and it doesn't matter whether someone requests it or not, the interests of the customers are safeguarded by making these emergency arrangements continuously effective, so that they go into operation purely automatically without even requiring the throwing of switches. 3386

This flow of energy reversed of its own accord because of the shifting of supply and load conditions on the system.

Q. When you say "automatic", do you mean that it was not even necessary for the load dispatcher in Milwaukee to be advised of the outage in the transmission line coming down from Twin Falls? A. Yes, I mean that. The line went out of service and the power was shut off. At that instant the flow reversed in the Milwaukee-Appleton line because there was load in the Appleton area across the line, which load was not being satisfied from the former source.

It immediately began drawing power from the only electrical source connected to it, which was the 132,000-volt line from Milwaukee. 3387

In each instance, after emergency service is taken, a dispatcher's report is made and the company taking the service notifies the company furnishing it as to the exact circumstances and the duration of the service.

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That is one of the provisions of the contract, this arrangement being based upon the fact that the company re-

ceiving the emergency service is in better position to measure its time of occurrence and its nature than the company supplying it.

The only evidence of that line outage which appeared at the power plant of Wisconsin Electric Power Company was an increase in the loads carried on the generating units.

The magnitude of the load shifted to these plants was not sufficiently great to cause any drop in frequency. It didn't cause any drop in voltage.

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Momentarily when the load comes on what happens is that the units tend to slow down slightly because of the additional pull on the generators. As soon as that speed drops ever so little the governors on the turbines open the steam throttles and supply more steam to the turbines. They immediately regain the speed for which the governors are set and the units go on carrying the increased load.

Certain types of outages do cause drops in voltage or frequency, or if the outage is of a type that suddenly relieves a plant of a part of its load the frequency and voltage
3390 will momentarily increase, but those changes must be of appreciable magnitude in proportion to the load carried by the units. This one wasn't of sufficient magnitude to cause any such flutter in voltage or frequency.

Q. In the instance you mentioned had it not been for the energy connection running south the Appleton territory would have been without electric service for the period of the interruption of the line running from Twin Falls to Appleton, is that correct? A. It would not have been entirely without service, no, because the Oconto Falls plant

was operating and the Weyauwego plant was available for operation and a hydro-electric plant can be started much more quickly than a steam plant.

There was undoubtedly some spinning reserve in operation at the Appleton plant, so that the company probably would have been able to maintain reduced service over a

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portion of the area and complete service over a part of it, or possibly reduced service over the entire area. At any rate, service to the customers would have been affected. To what 3392
extent one could not answer without making a careful analysis of all the generating equipment in service and available for service immediately.

If it had not been for the presence of the transmission line from Appleton to Milwaukee, Wisconsin Michigan Power Company would have been at that time, and would be at all other times, required in the cause of continuity of service to carry spinning reserve at the Appleton steam plant of capacity equal to the capacity being received over the transmission line from the Twin Falls plant.

Q. And the result of that operation would be an increase 3393
in operating expense? A. An appreciable increase, yes.

The Examiner: Let us have a five-minute recess.

(Whereupon, after a brief recess the hearing resumed.)

By Mr. Hamilton:

Q. In addition to the interchange of energy at the interconnections to which you have already referred, are there other operating matters in which the companies comprising

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the Wisconsin Michigan group cooperate? A. Yes, there are a number of such matters. One respect in which the three

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companies of the Wisconsin Michigan group cooperate is in the utilization of spare operating equipment. When the company has equipment which it does not need at one time and which is needed by one of the other two companies in expanding or altering or strengthening its transmission or distribution system, the company owning the equipment will sell
3395 it to the other. Through this arrangement a good many transactions have been carried out between the companies to their mutual advantage.

In 1931 the loads in the area served by the Brown Deer sub-station, which appears on Exhibit 32, had increased to such a point that it was necessary to make some change in the distribution sub-station located there.

Q. That is a sub-station of Wisconsin Gas & Electric Company, is it? A. At that time the Brown Deer sub-station was owned by Wisconsin Gas & Electric Company. This sub-
3396 station supplied energy to numerous distribution lines, some of which extended out into the territory served by Wisconsin Gas & Electric Company, and some of which extended into the electric service territory of Wisconsin Electric Power Company.

Studies were made of the entire situation to determine what should be done about improving operating conditions at that point and it was found that certain of the operating problems related to that sub-station would be simplified if the

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sub-station were owned and operated by Wisconsin Electric Power Company. It was decided that Wisconsin Electric Power Company should build a new and larger sub-station and should carry the loads of both companies in this area from that sub-station.

In order to keep Wisconsin Gas from having on its hands a sub-station for which it had no use it was decided that Wisconsin Electric Power Company would buy from Wisconsin Gas all those portions of the equipment in the Brown Deer sub-station that could be used on the system of Wisconsin 3398
Electric Power Company, and that Wisconsin Gas would make use of the remaining portions, that is those portions which it desired to retain, in its own operations.

The sub-station was sold to Wisconsin Electric Power Company after an inventory of all equipment in the station and a valuation of that equipment at original cost. Depreciation was computed in accordance with the life of the equipment and the depreciation rates at which depreciation is provided for such items of sub-station equipment and the net price was the cost new less depreciation.

This transaction involved a consideration of approxi- 3399
mately $8,200 and reduced the cost of the new sub-station somewhat because some of the equipment was installed in the new sub-station and also relieved Wisconsin Gas & Electric Company of an investment in a sub-station and equipment for which it had no immediate use.

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The main power transformer and portions of the switchboards and certain other parts of the sub-station were retained by Wisconsin Gas & Electric Company because it had

3400 use for those items elsewhere in its distribution system. Transactions of this kind are carried out at original cost less depreciation in accordance with the requirements of the Public Service Commission of Wisconsin.

The accounting that was done in this instance on the books of Wisconsin Gas & Electric Company was to write off from fixed capital the entire Brown Deer sub-station, charging the depreciation reserve with the amount of depreciation which had been deducted from the original cost
3401 in determining the consideration, and charging the amount received to cash.

On the books of Wisconsin Electric Power Company the equipment purchased was taken in at original cost as specified by the classification of accounts and there was set up in the depreciation reserve of Wisconsin Electric Power Company an amount equal to the depreciation which had been deducted from the original cost in determining the net price to be paid.

As a result of those transactions the Brown Deer sub-station disappeared entirely from the fixed capital records
3402 of Wisconsin Gas & Electric Company. The depreciation which Wisconsin Gas & Electric Company had accrued during the period of service of the Brown Deer sub-station also disappeared from the books and Wisconsin Gas cash account reflected the fact that the company then had in the bank

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the additional cash represented by the consideration received from Wisconsin Electric Power Company.

On the books of Wisconsin Electric Power Company, however, fixed capital in service showed the original cost of the

equipment purchased from Wisconsin Gas & Electric Company and the depreciation account showed an accumulation sufficient to offset the depreciation actually experienced by that property before Wisconsin Electric Company bought it.

Wisconsin Electric Power Company then continued accumulating depreciation on that equipment in terms of its over-all life, rather than its remaining life, so that when the over-all life has been served there will be in the depreciation reserve of Wisconsin Electric Power Company, a sufficient accumulation to write off that original cost. 3404

Miss Calkins: Does one of these companies ever lease equipment from another?

The Witness: They don't lease operating equipment ordinarily. They do lease property and they make joint use of certain buildings and land in which——

Miss Calkins: Well, I didn't mean that. I had reference to machinery that might be used on construction jobs and things of that kind.

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The Witness: I know of no instances where that has been done with the exception of electric service trucks which Wisconsin Electric Power Company

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rents from Wisconsin Gas & Electric Company in carrying out its operations.

Miss Calkins: But there isn't, generally speaking, any common use of any large amount of equipment owned by the respective companies?

3406 The Witness: No, there is not. Each company provides its own equipment for construction and maintenance purposes in general.

The companies are large enough to make it unnecessary for joint use of equipment of that kind. In instances where the relationship of the two companies with respect to territory and facilities and customers makes it advantageous for certain operations to be carried out jointly, advantage is taken of those oppor-
3407 tunities. I will explain several of those.

By Mr. Hamilton:

Q. Go ahead. A. Another instance of cooperation between the companies in the utilization of spare operating equipment occurred in 1933 when Wisconsin Gas & Electric Company constructed a sub-station at Elkhart Lake on the transmission line of Wisconsin Electric Power Company between Granville and Appleton.

Elkhart Lake appears on Exhibit 32 in the northern portion of the electric service area of Wisconsin Gas & Electric
3408 Company.

This sub-station required the installation of 132,000 volt transformers which Wisconsin Gas & Electric Company did not have in stock at that time. The old Granville sub-station

to which I have previously referred, had been taken out of service prior to 1933 and the transformers were still standing in place, although they were not in use.

These transformers were sold to Wisconsin Gas & Electric Company for installation in its sub-station which was

being built at Elkhart Lake. The transformers had been out of service for sometime and being of the outdoor type had been standing out in the weather. They were built for such service, however, and had not suffered any depreciation beyond that normally attending the life of the transformers at that time.

Due to their being out of operation, however, they had accumulated some moisture in the oil which insulated the winding of the transformers and in determining the price which was to be paid by Wisconsin Gas & Electric Company 3410
to Wisconsin Electric Power Company allowance was made for the cost of drying out the oil and of other minor maintenance operations which were necessary to place the transformers into good operating conditions consistent with their age.

Here again the price was based on original cost less depreciation determined according to the proper depreciation rate for that class of equipment and the age of the transformers. The consideration was $22,000 for the three transformers. Those transformers stepped down the voltage from 132,000 volts to 26,400 volts and have a rated capacity of 16,067 3411
k. v. a. each, making a total sub-station capacity of 5,000 —1,573— k. v. a.

The price was about $22,600.00, which was scarcely more than half what it would have cost Wisconsin Gas & Electric Company to buy new transformers for that same installation.

The transformers are in good operating condition and for all practical purposes are equally as useful as new transformers purchased at that time would have been.

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As I recall, they were eight or nine years old at the time.

Another instance of the transfer of available equipment from one company to another occurred in 1939 when Wisconsin Gas & Electric Company decided to make some changes in its 132,000 volt sub-station in Kenosha.

These changes involved the removal of two 132,000 volt oil circuit breakers, and several sets of 132,000 volt disconnecting switches.

These oil circuit breakers formerly served on the 132,000
3413 volt transmission connection between Kenosha and the Illinois state line which has since been taken out of service. Inasmuch as Wisconsin Gas & Electric Company no longer had need for these circuit breakers and disconnecting switches, they were made available to the other two companies of the group.

Wisconsin Michigan Power Company recently found itself in need of such a circuit breaker for one of its substations and purchased one of the two from Wisconsin Gas

& Electric Company at a price which recognized the original
3414 cost, the age, as a measure of depreciation, and the operating condition of the breakers.

Subsequently, Wisconsin Electric Power Company needed an oil circuit breaker of that type and purchased the second one from Wisconsin Gas & Electric Company.

In this case, it was found that it would be necessary to overhaul the circuit breaker in order to place it in good operating condition and in order to meet the requirements of Wisconsin Electric Power Company it was also necessary to make some alterations in the control equipment in order

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to give the circuit breaker a higher current rupturing capacity.

The cost of overhauling and reconstructing the circuit breaker was divided into two classes; one, the costs incurred in placing the breaker into reasonable operating condition, and the other, the cost incurred in increasing its current rupturing capacity.

The first portion of these costs was deducted from the original cost less depreciation figure because it was a cost required in bringing the circuit breaker up to the condition indicated by the depreciated value.

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The remaining expenditure was an improvement in the capacity of the breaker and had nothing to do with the

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breaker in its present condition and its present rating.

Now, this transaction took two very expensive pieces of equipment off the hands of Wisconsin Gas & Electric Company. They were standing there in the Albers Street Sub-station and weren't rendering any service.

Cost estimates on similar breakers had been obtained by both Wisconsin Michigan Power Company and Wisconsin Electric Power Company, and in the case of the latter the quotation was between seventeen thousand and twenty thousand dollars.

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The price paid for these breakers was something on the order of seven thousand or seven thousand five hundred. I don't recall the exact figure, but the comparison of these figures indicates the amount of the saving realized.

3418 A large part of the difference between the cost of new circuit breakers and the ones that were purchased from Wisconsin Gas & Electric Company comes about from the fact that the old ones were purchased at a time when electrical equipment wasn't as expensive as it is now, and also because of the fact that the old breakers do not have some of the modern control refinements that the new ones have.

Since the old breakers would serve the purpose, however, it was felt that there was good economy on the part of both
3419 the purchasing companies and the selling company to transfer the equipment.

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Wisconsin Electric Power Company is going to install the circuit breaker if purchased from Wisconsin Gas & Electric Company in the new 132,000 volt, 66,000 volt sub-station which I mentioned as being under construction at 96th Street on the Lakeside-Granville transmission line.

Q. Turning to still other phases of joint operation, you have testified, have you not, that Wisconsin Electric Power Company furnishes steam to the Racine Gas Works of the
3420 Wisconsin Gas & Electric Company? A. Yes, I have.

Wisconsin Gas & Electric Company requires substantial quantities of steam for the operation of its gas plant in Racine and obtains that steam from the Racine Power Plant of Wisconsin Electric Power Company.

The steam is generated in the boiler plant of the power station and is billed to Wisconsin Gas & Electric Company at the actual cost of production—that is, the actual cost of furnishing the service.

Q. The use of that steam is necessary, is it, to the operation of the gas works? A. Yes, it is. It is necessary. If

Wisconsin Gas & Electric Company were unable to obtain the steam from a source such as this, it would have to put up a boiler plant of its own.

In 1939, it purchased $26,000.00 worth of steam from

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Wisconsin Electric Power Company.

The Racine Power Plant is not in regular electrical generating operation as I have explained, but the boilers are kept hot for two reasons, one of which is to keep the plant continuously available for emergency electric generating 3422
service and the other to furnish steam to the Racine Gas Plant.

The boilers are there. The operating force is there, and the boilers are kept under pressure and so the only added cost of furnishing the steam to the gas plant is that of the incremental costs above those that would be incurred in simply holding the plant as available steam generating reserve.

Q. And that service is rendered to Wisconsin Gas at cost, is it? A. Yes, it is rendered at cost, the cost including apportionments of labor and other maintenance expenses, fuel, 3423
and proportionate fixed charges on the investment devoted to the steam service.

Q. Does Wisconsin Gas & Electric Company perform any services for Wisconsin Electric Power Company at Racine Power Plant? A. Yes, it does. The operation of the Racine Power Plant produces considerable quantities of ashes from the boilers. These boilers are stoker-fired, as I have explained, and it is necessary to dispose of these ashes.

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3424 Wisconsin Gas & Electric Company hauls them away in trucks and dumps them at points provided for that purpose. The charge for the service is based on the cost of rendering it.

Wisconsin Gas & Electric Company operates a number of trucks in the Racine district in connection with the operation of its gas utility in handling of coke and coal, and so forth, and makes these trucks available for hauling away the ashes from the power plant.

Q. Have you any idea as to the amount of coal burned
3425 at that plant, on a daily basis? A. I can look that up. In the year 1939, the Racine Power Plant consumed 6,060 tons of fuel. That fuel is made up of eastern screenings and coke breeze from the coke gas plant of Wisconsin Gas & Electric Company. On a daily basis——

Q. (Interposing) Well, that is sufficient. A. All right.

Q. Does Wisconsin Michigan Power Company perform line patrol services for Wisconsin Electric Power Company? A. Yes, it does perform such services on that section of the 132,000 volt transmission line of the Wisconsin Electric Power Company which lies north of Plymouth, which is
3426 shown on Exhibit 32.

This section of line is nearer to the territory of Wis-

consin Michigan Power Company than it is to the territory of Wisconsin Electric Power Company, and it is, therefore, more convenient and economical to have patrol service along this fifty-mile section performed by patrol crews of Wisconsin Michigan Power Company than it would be to have the patrolling done by personnel of Wisconsin Electric Power Company.

Q. That service is rendered at cost? A. Yes. The time spent and the facilities used in patrolling the line are covered by the billings made for the service, which are at actual cost.

Q. Are there instances of joint use of sub-stations by the respective companies? A. Yes, there are certain sub-stations which are used jointly by Wisconsin Electric Power Company and Wisconsin Gas & Electric Company.

One of these is located in Waukesha. The sub-station at this point is owned by Wisconsin Gas & Electric Com- 3428
pany, and Wisconsin Electric Power Company has certain equipment located in the sub-station.

The equipment located in the sub-station is operated by the personnel of Wisconsin Gas & Electric Company, and Wisconsin Electric Power Company shares the operating and maintenance costs of the sub-station, in addition to paying an equitable rent for the utilization of floor space in the

building.

This joint use of property and personnel eliminates the necessity for two separate installations and two separate 3429
operating crews.

The rental for floor space is based upon investment in land and structure distributed on a floor space area in accordance with the amount of space used by each of the two companies.

The rent includes taxes, depreciation, and maintenance expense, as well as interest on investment.

Another sub-station which is occupied jointly by Wisconsin Electric Power Company, and Wisconsin Gas & Elec-

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tric Company, is located at Watertown, which appears on Exhibit 32.

In this case, the sub-station is owned by Wisconsin Electric Power Company. That is, the sub-station equipment is owned by Wisconsin Electric Power Company and it is located in the sub-station building and power plant building of Wisconsin Gas & Electric Company under an arrangement similar to that at Waukesha.

The station and power plant equipment are operated by
3431 personnel of Wisconsin Electric Power Company of Watertown, however, and Wisconsin Gas & Electric Company shares the cost of operation.

It is billed for its proportion of the operating cost monthly.

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Wisconsin Electric Power Company, on the other hand, pays a monthly rental to Wisconsin Gas & Electric Company for its use of the investment in land and buildings. A special operating expense job order is maintained by Wisconsin Electric Power Company to cover the expenses in-
3432 curred in operating and maintaining the watertown substation. The charges to this job order are summarized monthly, and are divided between the two companies in proportion to their relative use of the facilities in the substation. This relative use is measured by the kilowatt hours output of the equipment in the station, the number of switching operations, and the various other phases involved in operating the combined power plant and sub-station property.

Q. Are there instances of joint use of office facilities?
A. Yes, there are. Wisconsin Gas & Electric Company owns

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and operates a gas production and distribution system in the city of Racine and has its general offices in that city.

The electric system in Racine, however, is owned and operated by Wisconsin Electric Power Company, the Racine division offices of Wisconsin Electric Power Company being located in Racine.

Because of economies that can be realized through combining the main offices of Wisconsin Gas & Electric Company

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with the divisional offices of Wisconsin Electric Power Company, these two sets of offices occupy common buildings and utilize, to a considerable extent, the same office personnel and office equipment.

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The buildings are owned by Wisconsin Gas & Electric Company and for the most part; the office personnel working in the buildings are on the payroll of that company.

Some of the personnel are on the payroll of Wisconsin Electric Power Company, however.

Wisconsin Electric Power Company makes a monthly payment to Wisconsin Gas & Electric Company covering rent for the use of the buildings of the latter company and covering an apportionment of the salaries of those employees on the payroll of Wisconsin Gas & Electric Company who do work in behalf of Wisconsin Electric Power, and also covering the rent for the use of office equipment, including tables, chairs, desks, files, safes, typewriters and other equipment, and also rent for the use of the buildings.

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This monthly payment is subject to annual revision according to the terms of the agreement. The annual revision involves a complete survey of the use of the personnel, build-

ings and equipment at the end of October in each calendar year.

The rentals are revised according to conditions as of that date and become effective on the first of the following

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calendar year.

The revision is made as of October 31 and made effective as of the following January 1, because it takes about two months in order to complete the study and get the rentals
3437 worked out on a practical basis.

Q. Are there instances of joint meter reading? A. Yes; I have pointed out that Wisconsin Gas & Electric Company operates the gas business in Racine while Wisconsin Electric Power Company operates the electric business in Racine.

Many of the customers of the gas system are also customers of the electric system and for a number of years, the gas meters were read by gas company employees and the electric meters were read by electric company employees.

Now, however, both meters are read by one crew of meter readers.

3438 Some amusing incidents occurred in the earlier years when the gas meter reader would come in the morning, the electric meter reader would come in the afternoon, and if it happened to be a particularly muddy day, the housewives didn't think it was a very sensible arrangement.

The meter reading, however, is now carried out jointly by one crew of meter readers and they read both the electric and gas meters. That not only saves the patience of our customers, but it saves considerable money by eliminating double traveling time between stops.

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It takes a man about so much time to read a meter and no saving in the reading, itself, is made, but when a man can read two meters for a given amount of travel between stops he can eliminate a substantial portion of the unproductive time involved in the operation.

Delivering of bills is also done by one staff of bill deliverers. They deliver bills for both electric and gas service in Racine. The personnel in the company offices who receive payment of bills, also receive payment for both electric and gas service.

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The handling of service applications at the application desk is done jointly for both gas and electric operations in Racine.

Q. Do these joint operations in Racine result in economies to both companies? A. Yes, they do. It seems almost obvious that the maintenance of one crew for one operation and another crew for another similar operation would be much more expensive than having one slightly larger crew do both jobs.

Previously, there were separate application desks, requiring separate personnel. Trouble calls are also handled jointly for both systems by the trouble service crews.

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The cost of such joint operations are shared between the two companies on the basis of service rendered for each;

trouble service is billed on the basis of number of trouble calls and time spent, meter reading on the basis of number of meters read, and the time required to read the meters, and service applications on the basis of number of applications received for each class of service.

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Q. Are there instances of joint use of telephone facilities? A. Yes, there are. Wisconsin Gas & Electric Company makes quite extensive use of the private telephone system owned and operated by Wisconsin Electric Power Company.

This telephone system includes an automatic exchange in the Public Service Building, which is the main office building of Wisconsin Electric Power Company in Milwaukee, and a number of trunk lines reaching out to Racine and Kenosha on the south, and out along the routes of the inter-
3443 urban railways to the west and to the north.

The trunk lines between Milwaukee and Racine and Kenosha are used very extensively in telephone communications between Wisconsin Gas & Electric Company and Wisconsin Electric Power Company, particularly between Racine and Milwaukee, and are used for Wisconsin Gas & Electric Company business very largely between Racine and Kenosha.

The telephone lines which follow the routes of the interurban rail lines into the outlying districts are known as dispatch lines and have instruments attached to most of the stations along the rail lines and at many points between
3444 —1,586—
the stations.

These outlying telephone stations are used by Wisconsin Gas & Electric people in telephoning the main office to report outage of lines and to report other sorts of trouble on the system.

One of the portions of the agreement between Wisconsin Electric Power Company and Wisconsin Gas & Electric Company covering the joint use of offices in Racine covers the division of the costs and fixed charges connected with

the operation of the private telephone system of the Wisconsin Electric Power Company.

Wisconsin Gas & Electric is charged a share of the expenses charged to the telephone operating expense job order and is also charged a share of the fixed charges assignable to the investment in communications equipment, such share being based upon the number of telephone instruments assigned wholly or partially to the use of the Wisconsin Gas & Electric Company.

Q. Does this arrangement result in lower costs to Wis 3446
consin Gas & Electric Company? A. Yes, it does. Wisconsin Gas & Electric Company has taken some telephone service within its own buildings from the Wisconsin Telephone Company, but for service between Racine and Kenosha and Milwaukee, most of the communications are done on the

private system of Wisconsin Electric Power.

This communication is carried out at considerable saving because if it weren't for the system of Wisconsin Electric Power Company, all such calls would be made at toll rates 3447
which would result in costs considerably above the costs assigned to Wisconsin Gas & Electric Company by Wisconsin Electric Power.

Many of the telephone calls made from out in the rural territory of Wisconsin Gas & Electric Company come over the commercial lines of the telephone company because the private system of Wisconsin Electric Power doesn't reach into all parts of that territory.

Wherever it is possible, though, these calls are made over the dispatch lines and the toll call is eliminated.

Q. Does Wisconsin Electric Power Company buy coal for use at the Racine power plant of Wisconsin Gas & Electric? A. Yes. In answer to a previous question, I testified that about 6,000 tons of coal were burned at the Racine Power Plant in 1939.

A considerably larger quantity than this is consumed in the coal gas plant of Wisconsin Gas & Electric Company at Racine, and because of the large coal purchases for gas operations, Wisconsin Gas & Electric Company is able to
3449 earn a lower rate for its coal than would be given Wisconsin

Electric Power Company in the purchase of its power plant coal alone.

The benefits of the lower price enjoyed by Wisconsin Gas & Electric Company are passed on to Wisconsin Electric Power Company by an arrangement under which the latter company pays the actual costs to the former.

Q. How about joint use of cars and trucks in the respective companies? A. In carrying out its gas operations in the
3450 Racine division, Wisconsin Gas & Electric Company finds it necessary to own and operate a relatively large fleet of automobiles and trucks.

Wisconsin Electric Power Company rents such trucks from Wisconsin Gas & Electric Company for use in operating and maintaining the electric properties in the Racine area.

Wisconsin Gas & Electric Company operates a garage for storing, servicing and maintaining these automobiles and trucks and by renting such equipment, Wisconsin Electric Power Company is able to avoid the necessity of having a separate garage with separate maintenance crews.

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Joint use of automotive equipment makes it possible for the two companies to take advantage of diversity in their requirements, also. It would be necessary, if each company maintained its own fleet of trucks, to have enough trucks to take care of any emergency that might arise; in other words,

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to have reserve or spare capacity.

By combining the requirements of the two companies, such spare capacity serves the needs of both and results in a smaller number of machines than would be required if they operated separately in this respect.

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Q. Would you say, then, that the result of this arrangement, again, is the achievement of reduction in operating costs? A. Yes, it is. It does achieve such reduction in costs.

Q. Have you indicated the basis of rentals paid by Wisconsin Electric Power Company? Is the basis here again on actual cost? A. Yes, the rental is an hourly charge which varies according to the size and type of vehicle involved.

This hourly charge includes the fixed charges on the investment in the vehicle, a rent for the space it occupies for storage purposes, fixed charges on the building and tools and other equipment required in the maintenance of the vehicle, and the labor expense involved in those operations.

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Wisconsin Electric Power Company furnishes the drivers for the trucks but that is the only part of the operation of the automotive equipment used in the Racine district that is furnished directly by Wisconsin Electric Power Company. The trucks, themselves, and all operations incident to fur-

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nishing them, are supplied by Wisconsin Gas & Electric Company, and the rate paid is calculated to cover costs, all elements of costs, but not including any profit.

Q. At the outset of your testimony, you spoke briefly of the Operating Research Bureau. Could you elaborate on your original statement in order to bring out the services furnished by that bureau to the three companies? A. The Operating Research Bureau is a department of the Wisconsin Electric Power Company which is operated for the pur-
3455 pose of providing all three companies of the Wisconsin-Michigan group with certain accounting, statistical and other special services at cost.

The employees in the Operating Research Bureau are on the payroll of Wisconsin Electric Power Company and the charges made to Wisconsin Gas & Electric Company and Wisconsin Michigan Power Company for the services of this department are based upon the actual time spent by the employees doing work for such other companies, and the expenses incurred in doing that work.

In addition to direct labor charges, the costs billed in-
3456 clude such general things as stationery, and a portion of the salaries of the individuals supervising the operation of the department.

Q. And would you elaborate further on the scope of the services which the Operating Research Bureau renders? A.

One of the types of service rendered by the Operating Research Bureau is that of accounting and auditing. This department conducts the internal audits carried out by the company in auditing its own books in accordance with requirements in connection with financing issues.

This auditing work involves the preparation of detailed reports on the investigations of various accounts and classes of accounts, including periodic audits of the cash position of the companies, such audits being unannounced as to time of occurrence, inspections of the petty cash accounts, expense reports, the manner in which the different companies are carrying out their billing procedures in terms of the provisions of the more involved rate schedules, and numerous other studies of that general type.

The auditing group has also made extensive studies re- 3458
quired in connection with property classifications, such as the studies necessary in working out the original costs of the properties of the companies as required by regulatory authority, and the making of depreciation studies for the purpose of determining proper depreciation rates to be applied to various classes of the operating properties of the companies.

The auditing division also assists in the preparation of accounting data for the annual reports to various regulatory authorities, including the Public Service Commission, Fed-
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eral Power Commission, the Wisconsin Tax Commission, and in the case of Wisconsin Michigan Power Company, the different Michigan commissions with authority over the operations of the company.

The Operating Research Bureau also renders extensive tax consulting service to all three companies of the group. The people who do this kind of work make searching audits of the income tax returns of the companies and prepare material to be used in behalf of the companies at conferences

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and hearings or other appearances before the tax commissions of the two states of Wisconsin and Michigan and take part in negotiations relating to the assessments of ad valorem tax on the operating utility properties of the companies.

Q. Does the bureau perform services for all three companies in preparing such matters as registration statements, filings under the Securities Act, the Exchange Act, and the Public Utility Holding Company Act? A. Yes, it does. It has participated in the preparation of all such material and
3461 statements which have been prepared for the three companies.

Q. And the preparation of original cost studies? A. Yes. It makes those studies and it has completed such studies for all three companies of the group and has reported the results of those analyses to the proper regulatory bodies.

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Q. Does it handle bonus questions? A. Yes. A rather large division of the Operating Research Bureau works exclusively on bonus and wage incentive plans, which have resulted in considerably increased output of labor employed
3462 by the company and have also resulted in considerably increased earnings for the employees. The gain-sharing division, which is the name by which this group is designated, makes extensive time studies of all jobs amenable to that type of treatment.

They then establish what are referred to as standard time allowances which represent the amounts of time which an average employee should spend in performing certain operations incident to his work.

Having established standard time allowances, they develop bonus rates which are paid to the employee who performs his work in time which is less than that provided by the standard time allowances for these various operations. The payment to the employee for such superior performance amounts to 40 per cent. of the actual wage for the amount of time saved. 40 per cent. is retained by the company and 20 per cent. is used in the development and administration of the plans.

Thus, the cost of the plans are covered and the saving 3464
above that is divided equally between the employee and the company. Some of the employees of Wisconsin Electric Power Company, with whom I happen to be the most fa-

miliar, earn bonuses ranging as high as 60 per cent. of their monthly wage. Some of them earn no bonus at all.

The new employees who are still new and unfamiliar at their work sometimes earn a negative bonus. In such cases, however, the employee is not penalized but receives his base pay.

Q. Before leaving this department, do you feel that the 3465
operations of the bureau on a joint basis—that is, making the services available to all three companies—results in a reduction of costs in the type of service rendered the respective companies? A. Yes. I feel that it does result in costs of such services and I am sure that all three of the companies feel that way about it, too.

Q. It does result in a reduction in costs? A. A reduction in cost of the type of service rendered by the operating service bureau.

3466 Q. And also an increase and maintenance of a high level of efficiency in the work done by the department, which perhaps would not be available if the work were performed by the individual companies? A. We feel that way about it, yes. Being in that department, perhaps, I should be a little modest about it.

Q. I wouldn't. A. But the management of the three com-

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panies has indicated on numerous occasions that they are
3467 well satisfied with the quality of service rendered by the department and are very well satisfied with the low costs at which the three companies receive those services.

There are a large percentage of graduate engineers, graduate accountants, employed in the department. The various groups carry on their special lines of work and some of the people in the department do general investigational work.

The work is generally on a very high plane of quality and has apparently been very satisfactory, and I am sure has been very economical.

3468 The Examiner: Well, would the three companies, if left to their own resources, render as good or even better service than the services rendered through the bureau?

The Witness: I am quite sure they would not. Perhaps I don't understand your question. By "service," do you refer to service to the customers, or these special services to the management of the company?

The Examiner: Special services to the management of the company. That is what you were referring to, wasn't it, Mr. Hamilton?

Mr. Hamilton: That is right.

The Witness: I don't think it would be possible for a separate smaller group within each company to serve the companies as adequately and as economically as the Operating Research Bureau does.

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The Bureau being a central body, working in the interests of all three companies, is able to coordinate and consolidate many of these investigations on a basis that would be very difficult if the three operated separately. 3470

In considering questions related to taxes, for example, the same uniform policies are followed with respect to all three companies on tax matters.

The auditing is carried out in such a way that when certain weaknesses in accounting practices are discovered in the case of one company, those same things are looked for and eliminated in the case of the others where groups working separately wouldn't have the benefit of the broader experience that has been gained by the department working in general with all three. 3471

The Examiner: Isn't that a good point to stop for lunch?

Mr. Hamilton: Yes.

The Examiner: Very well, we will recess until 2:00 o'clock.

(Whereupon, at 12:35 o'clock p. m., the hearing recessed to reconvene at 2:00 o'clock p. m.)

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AFTERNOON SESSION

(The hearing was resumed at 2:00 P. M.)

The Examiner: You may proceed.

Whereupon EDWARD H. SCHMIDTMAN the witness on the stand at time of recess, resumed the stand, was examined and further testified as follows:

3473 *Direct Examination by Mr. Hamilton (resumed):*

Q. Does Wisconsin Electric Power Company furnish printing service to its affiliated companies in the Wisconsin Michigan group? A. Yes, it does. The printing department of Wisconsin Electric Power Company prints such things as letterheads, and accounting forms, and various other items of printed material for both Wisconsin Gas & Electric Company and Wisconsin Michigan Power Company.

This service is billed to the affiliates at cost and results in lower costs to them than would be the case if they had
3474 the printing done by outside concerns.

Q. The cost being on the basis of an allocation of direct labor and materials and supplies devoted to the process? A. Yes. That is the basis on which the cost is determined. It includes labor and materials and use of machines and

other equipment, and property employed in the service.

Q. In that connection you maintain a small printing plant, do you not, in Milwaukee? A. Yes. Wisconsin Electric Power Company maintains a printing plant which is operated by printing department personnel.

The costs of operating the printing plant are met directly by Wisconsin Electric Power Company, and the services of that plant, for the other companies, are billed to them as a direct item of expense.

Q. Does Wisconsin Electric Power Company perform stock transfer and other related services for the other two affiliated companies? A. Yes. Wisconsin Electric Power Company maintains stockholders' records and issues dividend checks for Wisconsin Gas & Electric Company and Wisconsin Michigan Power Company. 3476

This service is rendered by the same staff and in the same offices as that which renders similar services for Wisconsin Electric Power Company.

The charge which is made to the affiliated companies for such service is based on cost.

Q. Do any of the companies perform emergency line work for either of the other two companies? A. Wisconsin Electric Power Company and Wisconsin Gas & Electric Company have an operating arrangement, under which line repair crews of one company are made available to perform 3477 emergency work on the system of the other.

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Work of this kind is done only in cases of major outages due to storms or other causes, and makes it possible for the repair services not being used by one company to be called upon by the other, to restore the lines to operation as soon as possible.

By this interchange of repair crews and trucks, it is possible for the two companies to get along with fewer personnel and less equipment of that kind than would be the case if

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each operated alone, and some saving is realized through this arrangement.

Q. Are collection services performed jointly in certain territories? A. In the cities of Cudahy and South Milwaukee, where Wisconsin Gas & Electric Company renders gas service, and Wisconsin Electric Power Company renders electric service, the collection of all past-due service accounts is carried on jointly for the two companies.

The issuing of connection and disconnection notices and
3479 the collection of cut-off accounts, and petty ledger accounts, are also handled for both companies by personnel of Wisconsin Electric Power Company.

The cost of rendering such services for Wisconsin Gas &

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Electric Company is billed to that company.

By doing this work for both companies the personnel of Wisconsin Electric Power Company make it necessary for Wisconsin Gas & Electric Company to maintain similar personnel in those communities.

Q. Are there reciprocal pole contact agreements among
3480 the companies? A. There are such agreements between Wisconsin Gas & Electric Company and Wisconsin Electric Power Company. The electric service territories of these two companies are immediately adjacent and there are numerous instances in which it is desirable for the wires of one company to be carried on the poles of the other.

In order to eliminate the need for extensive accounting and billing for the reciprocal use of each other's poles, the two companies have agreed that each shall be permitted, without charge, to string its conductors on the existing poles of the other company.

We refer to this as a reciprocal pole contact agreement. The arrangement makes it possible to carry the lines of both companies, where they coincide, with one row of poles, eliminating the need for two rows, and the reciprocal aspect of it eliminates the need for accounting and billing for such use.

Q. Is the effect of these arrangements also to effect economies, in that additional rights of way are unnecessary? A. —1,601—
Yes, that would come into the picture if the arrangement 3482
were not in effect and each company had to provide its own pole lines.

Q. Additional rights of way would be required? A. Additional rights of way would be required in some instances, and additional line construction would be required.

Q. Are these arrangements applicable to a substantial extent of lines? A. Yes, they are. I don't know offhand just how many poles are used jointly in the systems of the two companies, but, from my knowledge of the positions of the two systems, I am sure that there must be thousands 3483
of poles so used.

Q. You have spoken of the joint use of office space in Racine, I believe. Are there other cities in which office space is exchanged? A. Yes, there are two. The offices in Racine, in Cudahy, and in South Milwaukee are used jointly by both Wisconsin Electric Power Company and Wisconsin Gas & Electric Company.

In Cudahy the office is maintained by Wisconsin Electric Power Company and is used by Wisconsin—I must correct that. The office is maintained by Wisconsin Gas & Electric

3484 Company and is also occupied by Wisconsin Electric Power Company.

In South Milwaukee the situation is reversed and the two

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arrangements are regarded as offsetting each other, with respect to cost and value of service rendered, so no billings for use of facilities are made in connection with these two joint offices.

Q. And here again, does the joint arrangement result in
3485 economies? A. Yes, it does. It makes it possible for the two companies to perform their business in each of the two cities in a total of two offices, rather than four.

The people who operate the offices serve both companies, being employees of one company in one instance and of the other company in the other instance.

Q. Employees of the company operating the particular office? A. Yes.

Q. Are there, from time to time, sales of materials and stock among the three companies? A. Yes, there are. There is in effect between the three companies an agreement under
3486 which Wisconsin Electric Power Company furnishes materials from its stock to Wisconsin Gas & Electric Company and Wisconsin Michigan Power Company.

Wisconsin Electric Power Company, being the largest company of the three, makes the greatest purchases of materials used in electric operations, and, because of those large purchases, is able to earn quantity discounts, which the other

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two companies could not earn, in some cases, because of their smaller purchases.

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In cases where savings can be made through the utilization of these quantity discounts, Wisconsin Michigan Power Company and Wisconsin Gas & Electric Company purchase such materials from Wisconsin Electric Power Company, at cost to that company plus a small percentage for handling charge.

During the twelve months ending June 30, 1940, the total sales to Wisconsin Michigan Power Company amounted to about five thousand dollars, and the sales to Wisconsin Gas & Electric Company amounted to slightly over forty-nine 3488
thousand dollars.

These sales included such material as wire cable, line hardware, and stationery, as well as a few transformers. The amounts of stock materials transferred under this arrangement varies from year to year.

I might add at this point that all the inter-company services which are rendered by the companies of the Wisconsin Michigan group to each other are billed at actual cost, including direct labor and materials, with reasonable overheads, and also including proper fixed charges on the investment in property and facilities utilized. 3489

In none of these arrangements is there any element of profit involved.

Q. Returning again for a moment to the operation of

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the generating system of Wisconsin Electric Power Company, will you tell us how that system is operated, functionally, from the standpoint of personnel? A. The power plants of Wisconsin Electric Power Company are operated

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by personnel of what is known as the power plant department.

This department is under the direct supervision of the Chief Engineer of Power Plants and is one of the departments reporting to the vice president in charge of power.

The maintenance work in the boiler plant and turbine rooms is also done by the power plant department, but the maintenance of electrical equipment in power plants, as well as electrical equipment in power plant switch houses
3491 is done by the station operation division of the electrical distribution department.

This department is supervised by the chief electrical engineer, who also reports to the vice president in charge of power.

All electrical construction of the company is done by the station construction division of the electric distribution department.

Q. You do your own electrical construction work? A. Yes, we do. The electrical engineering is carried out by the
3492 electrical engineering division of the electrical distribution department.

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It will be observed that all these divisions, that have to do with the operation and electrical construction of power plants, report, through their various supervisors, to the vice president in charge of power.

While electrical construction in power plants is done by the company, some of the structural work is done under outside contract.

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The transmission and distribution system is maintained by four overhead construction divisions of the electrical distribution department.

These divisions also do the construction work on the transmission and distribution system.

One of the divisions is located in Milwaukee and covers the Milwaukee metropolitan area.

Another division is at Racine; another, known as the Delafield division, covers the northern and western portion of the territory served by Wisconsin Electric Power Company; and the Hales Corners division covers the southwesterly portion of the territory.

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The work done by the four overhead divisions includes construction and maintenance work on all the transmission and distribution lines of the company as well as work on customers' premises, that has to be done in the operation of the distribution system.

Underground maintenance and construction work on the

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transmission and distribution systems is done entirely by the underground division of the electric distribution department.

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Equipment in sub-stations, including both transmission and distribution sub-stations, is operated and maintained by the station operation division, which is the division that also maintains electrical equipment in power plants and in power plant switch houses.

Q. What department handles such matters as trouble service? A. Trouble service is rendered by what we call the trouble division of the electric distribution department. Customers' trouble reports, which come in, in the conduct of

the company's business, are studied by a group of men representing the management, the sales department, the electrical engineering department—I should say, the electric distribution department—and the customers' accounting department.

This committee is known as the service committee and its purpose is to study the nature of all customers troubles reported to the company, and to eliminate their causes.

The report of the service committee shows that, in the twelve months ended July 31, 1940, 33,775 customers' elec-
3497 tric service trouble reports were handled by the electric distribution department.

An indication of the general nature of these trouble re—1,607—

ports is given by the fact that, of this number, nearly 30,100 were due to trouble on customers' equipment on customers' property, and had nothing whatever to do with the Company's transmission and distribution facilities.

Q. Now, how are the load dispatching operations conducted? A. The load dispatchers direct the operation of the transmission systems.

3498 Wisconsin Electric Power Company dispatchers direct the transmission operations of both Wisconsin Electric Power Company and Wisconsin Gas & Electric Company, the latter company having no dispatchers of its own.

Wisconsin Michigan Power Company has its own dispatchers who direct the transmission of energy on the system of that company and coordinate their transmission operations with those of Wisconsin Electric Power Company.

Q. Where are the load dispatchers located? A. The load dispatchers of Wisconsin Electric Power Company are located in Milwaukee, in the Public Service Building, and

those at Appleton are located in the Appleton power plant—those of Wisconsin Michigan Power Company.

The load dispatchers, in carrying out their operations, estimate system loads from six to twelve hours in advance, under ordinary operating conditions, depending upon the season, the weather conditions, and industrial activity.

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For week-ends and over holidays, load plans for twenty-hour intervals or so are made by the load dispatchers. These dispatchers assign loads to the various plants. That is, they 3500
determine in advance what portion of the estimated load for the day shall be carried at each station.

The load having been assigned to the respective plants, the power plant switchboard operators, who are the operating supervisors of the power plants, decide which generating unit shall be used in carrying the loads assigned to their plants.

In making this selection, they follow a standard schedule developed by the power plant department engineers, varying, according to the total load on the plant and the 3501
units available for service.

This standard schedule has been worked out so as to utilize at all times the most efficient units available. An hourly check is made by the load dispatchers on the demands being carried on all 132,000-volt lines, and also on all other lines operating between power plant or other sources of supply.

Q. How is that check made? A. The check is made by reading the meters at the sub-stations, through which these lines operate, and the purpose of the check is to make sure

that the loads being transmitted over the various circuits do not become too high and exceed the reasonable operating

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capacity of the circuits.

Q. That check continues day and night, does it? A. Yes, every hour.

Q. Does the work of the load dispatcher become particularly important in the event of emergencies? A. Yes. The load dispatcher is extremely important in cases of emergencies on the power system.

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Spinning reserve is maintained in the plants of the Company sufficient to replace the largest unit carrying load during the hours from 7:00 a. m. to 9:00 p. m. on week days.

By "spinning reserve" I mean generating capacity which is actually operating but not carrying load, so that the units are up to speed and the turbines are hot and the units are ready to pick up load without any interruption, in case the largest unit then carrying load should go out of service.

In case of a forced outage of a plant or of a major generating unit, the load dispatchers immediately redistribute the load on the system among the plants or units still remaining in service, so as to utilize that spinning reserve.

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If additional generating capacity is needed, as would be the case if more than the largest unit on the system went out of service, additional capacity is ordered into operation by the power plant switchboard operator.

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The dispatcher orders the switching of lines during an emergency in order to accomplish several things. The first one is to maintain continuity of service to the customers. The

second one is to minimize overloads on the lines, so as to prevent successive failures.

That is, if the load on the system is shifted in such a way that a certain circuit is loaded more heavily than it should be, the circuit breakers, which protect that circuit from overload, will operate and throw the circuit out of service.

That, of course, would create a further and more serious situation, and so the dispatchers are very careful to keep loads on lines within reasonable carrying capacities at 3506 times of emergency switching.

A third point which the dispatchers accomplish is to transfer the load on the various sub-stations in order to accommodate the emergency load conditions and prevent excessive overloads on the sub-stations, just as they do on the respective transmission circuits.

Then they also switch so as to re-establish service, if any load has been dropped during the emergency, such re-establishment being effected after additional generating capacity has been brought into service.

Many of the line outages on the systems of the companies 3507 don't require load to be dropped, but, in case it is dropped,

it is restored just as quickly as it can be without throwing other load out of service.

Q. I believe you stated that the work of the load dispatchers on the systems of Wisconsin Michigan Power Company and Wisconsin Electric Power Company were coordinated. Will you explain further the manner in which that coordination is maintained? A. That coordination can be

illustrated by describing the dispatching operations that take place when Wisconsin Michigan Power Company desires to deliver dump hydro-electric energy to Wisconsin Electric Power Company.

Under such conditions the Wisconsin Michigan Power Company load dispatcher notifies the load dispatcher of Wisconsin Electric Power Company by telephone that dump hydro-electric energy is available at Appleton.

He also states how many kilowatts of such power can be
3509 taken and for what period of time it can be furnished.

Wisconsin Electric Power Company dispatcher accepts the delivery of hydro-electric energy, if the loads on the system are such that that energy can be absorbed and the demands on the steam generating stations are readjusted in order to accommodate the delivery of the hydro-electric power from Appleton.

The delivery is continued until such time as Wisconsin Michigan Power Company finds that water conditions make it necessary to discontinue delivery.

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3510 That may be after a period of a few hours, or it may be after a period of several days, depending upon stream-flow conditions.

When that time is reached, Wisconsin Michigan Power Company's load dispatcher again telephones that they will be ready to discontinue delivery at a certain time.

Upon receiving that notice, the dispatcher of Wisconsin Electric Power Company arranges to have the load, which will be dropped at Appleton, picked up by the steam power plants on the system that he is dispatching.

In case Wisconsin Michigan Power Company is in need of dump steam energy, by the use of which it desires to conserve water in its hydro-electric plant ponds, the Wisconsin Michigan Power Company dispatcher will call Wisconsin Electric Power Company dispatcher and request the delivery of the dump steam power.

If the loads on the plants of Wisconsin Electric Power Company are such as to make dump steam power available at the time, the dispatcher at Milwaukee will approve, and the capacity to be delivered and the time of delivery will be 3512 agreed upon by the two dispatchers.

When that time comes the Wisconsin Electric Power Company load dispatcher will order the plants of his company to pick up the amount of load represented by the dump steam deliveries to Wisconsin Michigan Power Company, —1,613— and the plants begin delivering that energy.

Delivery is continued until Wisconsin Michigan Power Company dispatcher again telephones and notifies the dispatcher of Wisconsin Electric Power Company that they 3513 wish the delivery of dump steam power to stop, and at that time the plants of Wisconsin Electric Power Company drop the load.

When that load is dropped, the plants of Wisconsin Michigan Power Company pick it up and begin generating energy by using the water that they have stored during the period of delivery of dump steam power from Milwaukee.

Q. The principal office of Wisconsin Electric is at the Public Service Building in Milwaukee, is it not? A. Yes, it is.

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Q. And what other company offices does Wisconsin Electric have? A. Wisconsin Electric Power Company maintains other company offices at Port Washington, West Allis, Cudahy, South Milwaukee, and Racine.

These offices are maintained at these points for the convenience of the customers, in carrying out their transactions with the Company.

At these offices, Company representatives receive applications for service and receive reports of customers' trouble,

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whether that be of a type relating to outage of service or trouble with appliances or other electrical equipment, or whether it be a complaint on a bill which seems too high, or any other type of customers' trouble report. They are all received at the Company offices and are reported to the proper departments for handling.

Q. In addition to the Company offices, does Wisconsin Electric Power Company maintain local agents throughout its territory? A. Yes, it does.

Q. And where are they located? A. There are nine alto-

3516 gether, located in the following communities:

Oconomowoc, Delafield, Pewaukee, South Milwaukee, Waterford, East Troy, Port Washington, Muskego Center, and Hartland.

In addition to these nine regular local agents, the Company also has three relief agents, who relieve the regular men during their weekly days off, and one relief local agent, who serves in all of the local agents' territories during the vacation season.

Q. What is the function of the local agent? A. The local agent's function is to maintain service on the Com-

pany's system within his territory, to the greatest extent possible for one man, and to also represent the Company in

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all contacts with the customers.

The local agents of Wisconsin Electric Power Company receive applications for service. They render trouble service on the distribution system, within the capacity of one man.

There are certain types of trouble which one man can't remedy, such as would be caused by a heavy storm, with trees falling over the lines. 3518

When there is an outage on the system the local agent sees to it that the situation is made as safe as possible for the public; that is the first thing he does. If it is necessary to do certain switching operations to kill a certain circuit, he will do that.

Then, if it is possible for him to repair the break, he will do it; if it isn't, he calls the division office and has repair crews sent out to restore service.

The local agents also render trouble service on customers' premises, making temporary repairs to equipment and to wiring, and disconnecting defective equipment which he is 3519 unable to repair himself.

They replace heating elements in electric ranges and make various appliance repairs.

Repairs of this kind, such as I have just mentioned, are not made by the trouble division of Wisconsin Electric Power Company; they are made entirely by the local agents, and, if

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the local agent can't handle the repairs, as a matter of convenience for the customer, he will refer the situation to some local electrical repair man or electrical dealer.

Our local agents cut off service upon order, and also reconnect service upon order.

They make special meter readings. It isn't the function of the local agents to read meters directly or regularly, but in cases where the regular meter reader has been unable to take a reading, because of locked premises or some other circumstance, word will be left with the local agent and he will make the reading at his earliest opportunity.

The local agents also make the initial reading of a meter
3521 when service is first furnished to a customer, and the meter is first installed.

When service is disconnected, the local agent will take the final reading from the meter.

The local agents of Wisconsin Electric Power Company also collect delinquent bills for the accounting department. Bill collection is not one of their regular functions—that is, they don't go from house to house for the purpose of collecting electric service bills.

They will receive payment of bills at their offices, which, in many instances, are at their residences, but the only bills
3522 which they do collect by calling on the customer are delinquent accounts, submitted to them by the accounting depart-

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ment of the Company.

Each local agent is instructed to call the Milwaukee office two to three times daily, in order that there may be passed on to him any calls made at the office, for service, from customers within his district.

Many such calls come to the offices in the Public Service Building, from people living in the city and suburbs, who have cottages in the resort areas in the outlying districts.

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They call at the main office, saying that they are planning to go to their cottages for certain periods and desire to have service reconnected.

Q. In the conduct of the business, I assume a certain number of collection agencies are necessary. A. Yes, they are necessary. The Wisconsin Electric Power Company maintains a total of 257 collection agencies in the electric service territory it serves; 218 of these are in Milwaukee and immediate suburbs; five are in the city of Port Washington; and 34 are located in 31 different rural communities.

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Q. These are points at which customers may make payment of bills? A. Yes. They may make payment of bills and these collection agencies will also take messages for the Company although they do not accept applications for service and do not render other service to the customer, ordinarily, other than that of accepting payment of bills.

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Q. That is a rather large number of points at which payments may be made. Is there any particular reason for that? A. The reason for maintaining so many collection agencies is that we want to make it convenient for customers to pay their bills.

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Q. And in general what are these points at which payments may be made? A. Where are the points, did you say?

Q. Not "where", but "what" are the points? A. Oh. These collection agencies commonly are in stores or banks or shops of various kinds, located in the communities—places which are open for business relatively long hours of the day, and—well, the point being that we are trying to make it easy for the customers to pay their bills, not only

because we desire to accomplish prompt payment, but, if a customer finds it difficult to pay his bill he will have grounds for complaint on the quality of service.

It is just one of the elements, in serving the people—getting the service to them and making it convenient for them to pay for it.

Q. Where are the principal offices of Wisconsin Gas & Electric Company? A. The principal offices of Wisconsin

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3527 Gas & Electric Company are located in Racine, Kenosha, Fort Atkinson, and West Bend.

These offices are the central offices of the four operating divisions of the Company, known as the Racine Division, the Kenosha Division, the Western Division, and the Northern Division, respectively.

Q. And does Wisconsin Gas & Electric Company similarly maintain local agents throughout its territory? A. Yes, it does. Wisconsin Gas & Electric Company has local agents at Union Grove, at Franksville, at Wilmot, at Palmyra, at Johnson's Creek, at Reedsville, at Thiensville,

3528 at Random Lake, at Menomonee Falls, at Lomira, at Elkhart Lake, and at West Bend.

Most of these communities are shown on Exhibit 32.

Q. And is the function of these local agents, in general, the same as the function of the local agents of Wisconsin Electric Power Company? A. Yes, it is, in general. There may be slight variations in some of the detailed duties they perform, but generally they are very much the same.

There is one major respect, however, in which the operation of the system of Wisconsin Gas & Electric Company

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differs from the manner of operation of the system of Wisconsin Electric Power Company. —1,620—

That difference arises from the fact that Wisconsin Electric Power Company has an organization which is functional in nature—that is, certain functions are performed over the entire system by certain organizational groups, whereas, in the case of Wisconsin Gas & Electric Company, the organization is set up on a divisional basis, so that all operating functions within a given division or territory are performed by one organization.

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Q. Would you say that the reason for that segregation is the greater extent of the territory of the Wisconsin Gas & Electric Company? A. Yes, that is the reason. The greater extent of the territory makes the divisional type of operation much more economical.

It reduces traveling that would be required if one division or department were assigned the task of performing certain functions over the entire wide-spread territory.

Q. Where is the principal office of Wisconsin Michigan Power Company located? A. The principal office of Wisconsin Michigan Power Company is located in the city of Appleton, but the Company also maintains divisional offices in Iron Mountain, Michigan, and Neenah and Weyauwega, Wisconsin. All of these cities are shown on Exhibit 32.

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Q. And does it employ counterparts of the local agents

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that perform services for the other two companies? A. Yes, it does. It doesn't call them local agents; it calls them district men, but the functions of these district men, on the system of Wisconsin Michigan Power Company, are very

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much the same as that of the local agents on the systems of the other two companies in the group.

Wisconsin Michigan Power Company is also organized along divisional lines, the Northern Division having its main office in Iron Mountain, and the Southern Division having its main office in Appleton.

There are eight district men in the Northern Division, most of whom have their offices in their residences, and eighteen collection agencies in the Northern Division as well.

3533 Q. Will you locate the points at which the so-called district men operate? A. Yes. The district men are located at Powers, Loretto, Cooks, Perkins, Champion, Iron River, Paynesville, and Phelps, Wisconsin.

These are the eight district men's locations in the Northern Division.

In the Southern Division, the seven district men are located at the communities of Gillett, Bonduel, Bear Creek, Seymour, Weyauwega, Hortonville, and Hilbert.

In addition to these seven district men, Wisconsin Michigan Power Company maintains 35 collection agencies

3534 —1,622—

in the Southern Division.

Q. Again from the standpoint of operating personnel, how are the functions of operating the power plant system, the transmission and distribution line systems, distributed within the organization or Wisconsin Michigan Power Company? A. The power plants of Wisconsin Michigan Power Company are operated and maintained by personnel which are a part of the engineering division of the Company, under the supervision of the chief engineer.

3535

Maintenance work in the Appleton steam power plant is performed by special maintenance crews, and, in the hydro-electric power plants, it is done by the plant operators, except when the magnitude or nature of the maintenance operation requires additional men.

In such cases, the additional help is brought in from other divisions or from outside the Company.

Assistance from outside the Company is commonly used when the maintenance operations involve such special tasks as electrical welding and other highly specialized occupations.

3536

The power plant sub-stations are ordinarily maintained by the crews that operate the power plants themselves. The divisional forces are sometimes used for this work, when the power plant personnel are not available and divisional per-

—1,623—

sonnel are.

The transmission and distribution line and sub-station construction is done by divisional forces under the direction of the division managers.

The maintenance work on transmission and distribution lines and sub-stations is also done by these same people.

3537

In the case of Wisconsin Michigan Power Company, the organization is arranged on a combination of the functional and divisional basis.

This arrangement of operating personnel has been found most effective and most economical in carrying out the operations of the Company in the area where it serves.

Q. With respect to operating expenses, what has been the record of the electric utilities constituting the so-called Wisconsin Michigan group? A. The operating expenses per kilowatt hour of the companies in the Wisconsin Michigan

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Group, excluding depreciation and taxes, have been greatly reduced in recent years. In the case of Wisconsin Michigan Power Company, such expenses amounted to 40 one-hundredths of a cent per kilowatt hour of net output in 1927.

By 1939 this had been reduced to 35 one-hundredths of a cent.

By "net output", I mean the total of all energy delivered to the system from all power sources, including net

—1,624—

3539 generation and net purchases.

Now, this reduction of operating expenses, during a twelve-year period, is undoubtedly somewhat less than would be found if comparison were made over a longer period of time.

(Discussion off the record.)

A. (Continuing) It has been impossible to use a longer period of time in this comparison, however, because the records of the Company do not extend beyond 1927, with respect to the small systems acquired and merged at that time.

3540 In 1920, the operating expenses of Wisconsin Gas & Electric Company, excluding taxes and depreciation, amounted to 2.36 cents per kilowatt hour of net output.

In 1939, they were 1.33 cents per kilowatt hour.

For Wisconsin Electric Power Company, the operating expenses, exclusive of taxes and depreciation, in 1920, were 1.83 cents per kilowatt hour, and, by 1939, this had been reduced to only 58 hundredths of a cent per kilowatt hour of net output.

Mr. Hamilton: May this chart be marked as Respondents' Exhibit No. 35, for identification?

The Examiner: Yes, sir.

(The document referred to was marked as Exhibit No. 35 for identification.)

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By Mr. Hamilton:

Q. Will you state, Mr. Schmidtman, what Respondents' Exhibit No. 35 for identification purports to portray? A. Exhibit No. 35 is a chart showing the trend of operating expenses of Wisconsin Michigan Power Company for the—— 3542

Q. (Interposing) Of what company? A. Wisconsin Electric Power Company.

(Continuing)—for the period 1920 to 1939, inclusive.

Q. And has this chart been prepared under your supervision? A. Yes, it has.

Q. The facts shown have been taken from the records of Wisconsin Electric Power Company? A. Yes, they were.

Mr. Hamilton: I offer it in evidence as Respondents' Exhibit No. 35.

Miss Calkins: No objection.

3543

The Examiner: The chart is received under the number assigned to it.

(The document referred to was received in evidence as Respondents' Exhibit No. 35.)

By Mr. Hamilton:

Q. In the operation of these three electric utility properties, is power production expense a major component of

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total operating costs? A. Yes, it is, and that fact is shown

by the relative positions of the two curves shown in Exhibit 35, the solid curve showing total operating expenses, excluding taxes and depreciation, and the dotted curve showing the power production expense alone.

Q. Now, in order to make clear the points on the chart covered by the curve, can you state from the chart the cost per kilowatt hour of net output to Wisconsin Electric Power Company in 1920, stating, in the first instance, power production expense? A. In 1920, the power production ex-
3545 pense of Wisconsin Electric Power Company, as indicated by the chart, was about 1.22 cents per kilowatt hour of net output.

Q. And the comparable figure, if you will, for 1939? A. The comparable figure for 1939 is slightly over .31 cents per kilowatt hour.

Mr. Hamilton: Will you read that answer back again, please?

(Last answer read by the reporter.)

By Mr. Hamilton:

3546 Q. Now, if you will, like information as to total operating expense as shown on the chart, excluding taxes and depreciation, for the years 1920 and 1939? A. The total operating expense, excluding taxes and depreciation, of

Wisconsin Electric Power Company, for the year 1920, was 1.83 cents per kilowatt hour of net output, and for 1939 was .58 cents per kilowatt hour.

Q. Now, you stated, I think, that power production was a major component of operating costs, and referred to the chart in that connection.

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Will you give us a little more in detail on that observation? A. The fact that power production expense constitutes a major portion of total operating expenses accounts for the major portion of the difference between the total operating expenses of the three companies in the Wisconsin-Michigan group.

In 1939, Wisconsin Michigan Power Company, which had a total operating expense, excluding taxes and depreciation, of 35 hundredths of a cent per kilowatt hour of net output, had power production expenses of only 17 one-hundredths 3548
of a cent per kilowatt hour.

The reason for this low power production cost lies in the fact that the power generation of Wisconsin Michigan Power Company is largely by means of hydro-electric generating stations.

In the operation of such hydro-electric generating stations, there is little opportunity for reducing production expenses, inasmuch as actual operating expenses are low and

are relatively constant, almost regardless of the output of 3549
the plants.

The expense per kilowatt hour varies almost inversely with the output, which in turn depends very largely upon stream-flow conditions.

In years of high run-off, within the capacity of the wheels of the plants, hydro-electric output is high and the production expense per kilowatt hour of such output is low.

Another reason why the total production expense in such years is low is that less steam make-up power is required in carrying the loads of the system, again resulting in lower power production expenditures.

3550 In years in which the flow available for hydro-electric generation is low, the hydro-electric output is down and the production expense in hydro-electric plants, per unit of output, is up.

Similarly, the amount of steam power required in such years is higher and the cost of such power adds to total production expenses, and raises the total unit production expense for the entire company.

As a result, production expenses of Wisconsin Michigan
3551 Power Company are affected more by water conditions than they are by operating economies, and it was for that reason that the production expenses and operating expenses of Wisconsin Michigan Power Company have not been shown in the exhibit, because they would not be indicative of any

trend toward economies in operating costs.

In the case of Wisconsin Gas & Electric Company, total power costs per net kilowatt hour were 87 hundredths of a cent in 1939.

As previously explained, Wisconsin Gas & Electric Com-
3552 pany purchases almost its entire power requirements from Wisconsin Electric Power Company.

The rate which it pays for such power includes production expenses, as well as fixed charges on facilities utilized in generating the energy and delivering it to the system of Wisconsin Gas & Electric Company.

Although Wisconsin Electric Power Company passes on to Wisconsin Gas & Electric Company the benefit of savings it has accomplished in lowering power production expenses, the rate which must be charged for this service must neces-

sarily continue to include fixed charges on investment in facilities, and, for that reason, no great change would appear in the power costs of Wisconsin Gas & Electric Company, and there is very little opportunity for that company to develop any appreciable economies in its power production expense.

In the case of Wisconsin Electric Power Company, however, there is more opportunity, which has been taken advantage of in the operations of the Company.

—1,630— 3554

In 1939, the total operating expense was 58 hundredths of a cent per kilowatt hour.

Advantage which has been taken by this Company of possible economies in power generation is shown by the rate at which the power production cost curve in Exhibit 35 has fallen during the period indicated.

These curves show that a major portion of the total saving—or, rather, the total reduction in all operating expense —was achieved through the reduction in power production expense.

In 1920, power production expenses constituted 67 per 3555
cent. of total operating expenses shown in Exhibit 35. In 1939, they constituted 53 per cent. of the total operating expenses.

During the 19-year period covered by Exhibit 35, the total operating expenses per kilowatt hour of net output were reduced by 68 per cent., and the production expense per kilowatt hour of net output was reduced by 75 per cent.

Other expenses than power production expense were 61 per cent. of the total in 1920, and—no, I have become confused here.

3556 Other operating expenses than power production expense were 61 hundredths of a cent per kilowatt hour in 1920, and were 27 one-hundredths of a cent per kilowatt hour in 1939, this change representing a reduction of 56 per cent. in expenses other than power production.

—1,631—

Q. Will you explain the reasons for this rather sharp decline in power production expense in the period indicated on Exhibit No. 35? A. The reason for the marked reduc-
3557 tion in power production expenses of Wisconsin Electric Power Company, during the period shown, lies in the important improvements in the design and operation of steam power plants which were developed by Wisconsin Electric Power Company.

The average heat consumption of the plants of the Company was 37,332 B. t. u. per kilowatt hour of net output in 1920, and 13,674 B. t. u. per kilowatt hour of net output in the year 1939.

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3558 As a result of this saving, electrical energy was produced in 1939 at a heat consumption of only about one-third of that per unit of output that occurred twenty years ago.

Inasmuch as fuel is a major item of expense, this improvement in thermal efficiency of steam generating stations has been a very important element in the reduction of power production expenses of the company.

The Examiner: Let us have a recess of five minutes.

(Whereupon a short recess was taken.)

3559

By Mr. Hamilton:

Q. Had you finished your statement, Mr. Schmidtman? A. Not quite. I just stated that inasmuch as fuel is a major item of expense in the power production of Wisconsin Electric Power Company, the improvement in thermal efficiency was an important factor in reducing production costs.

To indicate the extent to which fuel is a major item of expense, I have some data here on the fuel consumption at the Lakeside plant and the Port Washington plant in 1939.

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The Lakeside plant burns midwestern screenings which are brought in by rail. During the year 1939, the average heat content of the coal burned at that plant was 11,459 B. t. u. per pound. The plant burned 527,791 tons, which

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cost an average of $3.68 a ton.

The average fuel cost for the year was .231 cents per kilowatt hour of net output.

Q. That is at Lakeside, is it? A. That is at Lakeside. Coal is brought to the Port Washington plant by means of coal boats on Lake Michigan. The coal burned at that plant consists of eastern screenings and in 1939 the coal consumed had an average heat content of 12,997 B. t. u. per pound, which is slightly higher than the heat content of the coal burned in the Lakeside plant. 162,166 tons were burned during the year and cost an average of $4.22 a ton.

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The average coal consumption, or rather the average coal cost per kilowatt hour of net output at the Port Washington plant was .175 cents per kilowatt hour.

In view of the fact that a substantial portion of the company's generation is produced at the Lakeside plant, and that

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the coal costs per kilowatt hour at that plant was .231 cents per kilowatt hour of net output, it may be seen that coal represents somewhere in the neighborhood of 70 per cent. of the total production cost of the company.

I stated in answer to a question off the record, that the coal costs experienced by Wisconsin Electric Power Company were relatively high and that those high costs justified the heat-saving developments which have been made by the

—1,634—

3563 company in building and operating these power plants.

Mr. Hamilton: May that chart be marked as Respondents' Exhibit No. 36 for identification?

The Examiner: Yes.

(The chart referred to was marked for identification as Respondents' Exhibit No. 36.)

By Mr. Hamilton:

Q. Will you explain what Respondents' Exhibit No. 36 for identification portrays? A. Respondents' Exhibit No. 36

3564 is a chart showing the average annual heat consumption of all the power plants of Wisconsin Electric Power Company in B. t. u. per net kilowatt hour of output for the years 1920 to 1939, inclusive, and for a portion of the year 1940.

Q. Has this chart been prepared under your supervision? A. Yes, it has.

Q. And the facts shown have been taken from the records of Wisconsin Electric Power Company? A. They were.

Mr. Hamilton: I offer it in evidence as Respondents' Exhibit No. 36.

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Miss Calkins: No objection.

The Examiner: It is so admitted under the number mentioned.

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(The chart referred to was received in evidence as Respondents' Exhibit No. 36.)

By Mr. Hamilton:

Q. Does the curve get into 1940, Mr. Schmidtman? A. Yes, it does. The short projection to the right of the vertical line which lies midway between the lines designated as 1938 and as 1940 extends into the year 1940.

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Q. Now, in order to make clear what generating plants are comprehended in this information, would you state them merely by name? A. Yes. The data on this chart include all the steam power plants operated by Wisconsin Electric Power Company in each of the respective years shown on the chart. For the years prior to 1935 the chart covers—I must start that answer over.

For the year 1920, the chart covers the Commerce Street, Oneida Street and Racine plants of the Wisconsin Electric Power Company.

3567

For the years 1921 to 1935, it includes the Lakeside, Commerce Street, Oneida Street and Racine plants of Wisconsin Electric Power Company.

Q. It does not include East Wells Street? A. That was the Oneida Street plant during those years.

For the years 1936 to the end of the chart it covers the Lakeside, Commerce Street, East Wells Street, Port Wash-

—1,636—

ington and Racine Plants.

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The height of the curve at any line designated as a year represents the average heat consumption in British Thermal Units per net kilowatt hour of output for all of the plants operated during that year by Wisconsin Electric Power Company.

Q. Now, will you explain the reasons for the rather sharp decline indicated by the curve in the years 1920 to 1922? A. The curve begins in the year 1920 prior to the time of construction of the Lakeside power plant. The reductions
3569 shown in the year 1921 and in 1922 came about through the efficiency of the Lakeside power plant.

The initial thermal efficiency of the Lakeside plant, although not as high as it became later, was still sufficiently high to lower the over-all heat consumption of the system as a whole, so that by the end of 1921, the average heat consumption for the company's power plants had been lowered to 28,825 B. t. u. per kilowatt hour.

The further reduction in 1922 and in 1923 came about from the higher efficiencies resulting from improved operations of the equipment in the Lakeside plant.
3570

It will be observed that the curve had begun leveling off by the end of 1923, indicating that the equipment then installed was being operated at about its best efficiency.

Q. And then, subsequent to 1923, another rather sharp

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drop appears on the curve. To what is that attributed? A. That sharp drop comes about from the increased efficiency resulting from the radiant super-heaters installed in boiler number 2 after 1923.

By the end of 1923 the capacity of the plant had reached 70,000 kilowatts, which utilized the full steaming capacity of boiler room number 1.

Q. You are referring still to Lakeside, are you not? A. Yes, I am referring to the Lakeside plant. Boiler room number 2, however, went into service after 1923, utilizing the radiant super-heaters, resulting in a sharp reduction of heat consumption.

Operating methods were further improved on the new equipment in 1924 and in 1925 and the curve began again 3572
leveling off in 1926 and 1927.

Q. Has the use of high steam pressure resulted in economies in operation of the generating stations of Wisconsin Electric? A. Yes, it has, and that economy is shown by the continued decline of the curve in Exhibit 36 after the years 1926 and 1927.

High pressures were first adopted at the Lakeside plant in 1926 and were in operation during the year 1927. As I have previously explained, the operation of this high pressure equipment didn't reach its maximum effieiency until after 3573

certain difficulties had been eliminated, but after that had been done, the heat consumption of the Lakeside plant and of the average for the system, as a whole, resumed its downward trend.

The present capacity of the Lakeside plant was reached in 1930, but the average economy continued to improve until 1933. This continued improvement in economy at the Lakeside plant which is reflected by the downward trend of the curve in Exhibit 36, came about because of decreasing loads

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on the plant making it possible to carry increasing portions on the high pressure equipment, as I have previously explained.

In 1929 only 23.8 per cent. of the load on the Lakeside plant was carried on the high pressure equipment, resulting in a heat consumption of 14,882 B. t. u. per kilowatt hour of net output.

In 1933, 85.6 per cent. of the output of the Lakeside power plant was generated by means of the 1,230 pound cycle, re-
3575 ducing the heat consumption of the Lakeside plant to 13,302 B. t. u. per kilowatt hour.

That point is marked by the dip in the curve in Exhibit 36 on the line representing the year 1933.

Following 1932, an improvement in business occurred and demands on the power plants of the companies increased. As a result of these increased demands for service, heavier

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loads were placed on the low pressure equipment in the Lakeside plant, the high pressure equipment being utilized almost fully at that time.

3576 As a result of putting additional load on the low pressure equipment, the heat consumption of the plant went up, causing an increase in the heat consumption of the system as a whole.

From 1934 to 1935, a slight decrease in heat consumption occurred which became somewhat sharper in 1936 due to the operation of the Port Washington power plant which went into operation at the end of the year 1935.

In order to accomplish maximum over-all economy, the Port Washington plant is operated as a base load plant and

the Lakeside station carries the load fluctuations. This type of operation caused increased heat consumption at the Lakeside plant which is now operating at an average economy of about 14,500 B. t. u. per net kilowatt hour.

This increase in heat consumption at Lakeside, however, is more than offset by the reduced consumption at Port Washington, lowering the total for all plants of the company to 13,674 B. t. u. in 1939.

The power plant department of the company which has 3578
carried out the design and analyses of all power plant equipment installed by the company, has estimated that a saving of about one and a half million dollars has been realized at

—1,640—

the Lakeside plant up to the end of 1939 through the use of the 1,200 pound equipment.

This estimate is based upon the investment and the economy of low pressure equipment and high pressure equipment already in service in the plant; that is, the cost of operating the plant on the basis of low pressure equipment entirely has been estimated in terms of the cost of operating the low 3579
pressure equipment that is actually in the plant, and the savings which have been realized are measured by the operating costs actually experienced in comparison with that estimated on the basis of all low pressure generation.

The total fuel saving is estimated at $2,530,000.00.

Now, offset against this total saving, however, are increased fixed charges of about $1,000,000.00 in the higher investment required for the high pressure equipment.

The difference between those figures leaves the net estimated saving of one million and a half dollars between the

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years 1926, when the first high pressure equipment went into service, and the end of 1939.

Q. Has the installation of the new unit at East Wells Street had any effect on the curve? A. Yes, it has. The average heat consumption of the East Wells Street unit in 1939 was 13,128 B. t. u. per kilowatt hour of net output.

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Since that is below the average for the power plants of the company as a whole, it may be seen that it has operated
3581 to bring down the average for the company.

I have previously stated that a saving of about $130,000 has been realized through the operation of the East Wells Street plant during the twelve months ended February, 1940, this saving being the difference between the costs actually experienced in producing the electrical and steam output of the plant and the cost of producing similar output in the old Oneida Street boilers and in other power plants of the company.

During that twelve months period, the plant was out of operation for more than two months and it is believed that
3582 if it had been operating for the full twelve months period, the saving would have been even greater than the one we have estimated.

The new boiler and turbo-generator unit being installed at Commerce Street are expected to show savings of the same general order as those shown by the East Wells Street unit. The estimated cost of the electrical energy to be generated in the new Commerce Street unit is .3 of a cent per kilowatt hour and it is estimated that steam for heating purposes will cost not over 22 cents per thousand pounds.

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In operating the power plants of the three companies, to achieve maximum over-all economy, it should be stated that economy alone is not the sole consideration.

—1,642—

For the purposes of economy only, most of the load of Wisconsin Electric Power Company would be carried on the Lakeside and Port Washington plants only, but in order to make additional generating capacity available to guarantee continuity of service to our customers, the Commerce Street plant, as now constituted, and the Racine plant, are operated on schedules which make their capacity available to the system as a whole. 3584

After the new unit goes into service in Commerce Street, that plant will probably deliver more output to the system than it has done in recent years because of the greater efficiency of the new unit.

Likewise, East Wells Street plant will carry increasing portions of the system load because of its efficiency as well as because of the location of the East Wells Street plant and the Commerce Street plant in the heart of the downtown district. 3585

Location of a power plant in the immediate proximity of the load it serves is desirable, inasmuch as it eliminates the hazards of the transmission line outages attending location of power plants some distance from their loads.

Q. Have plans been laid for the construction of a new unit at Port Washington? A. Yes, they have. The plans have been laid and construction is now actually under way

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for the installation of a second 80,000 kilowatt unit in the Port Washington Plant.

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Contracts for the major generating equipment have been let and the construction schedule calls for completion by the fall of 1942, but permits of speeding up to the point that the unit will be made available for service sometime earlier than that, possibly in the fall or winter of 1941.

Q. Do you know the proposed steam pressure of the new unit? A. The new unit will operate at a pressure the same as that of the present unit, 1,230 pounds, and will also operate at a temperature of the same general range as the
3587 temperature at which the present unit operates.

Q. You would anticipate then, would you, that the operation of the new unit might further improve the record of the company with regard to heat consumption economy? A. Yes, it is expected that that will be one of the results of the new unit at Port Washington. The present unit has established a record which has been unequalled by any other power plant in regular operation and it is believed that the new unit embodying the improvements in steam turbine design which have been made in the last five years, will have economies possibly exceeding those in the present plant.

3588 —1,644—

Miss Calkins: Do you mean any other unit in operation by your company?

The Witness: Any other plant in the world.

Miss Calkins: Any other plant in the world?

The Witness: Yes.

By Mr. Hamilton:

Q. Before leaving Respondents' Exhibit No. 36, would you state the date at which the curve terminates? Does it include six months in 1940?

The Witness: Will you read the question, please?

(Whereupon the pending question was read by the reporter.)

The Witness: Yes, it covers six months in 1940. The ordinate, or height of the curve, at the point where it terminates, represents the average heat consumption of the five steam generating stations of Wisconsin Electric Power Company during the first six months of the year 1940. 3590

Q. You have testified previously as to the program of Wisconsin Electric in standardizing its generation of 60-cycle current. Has that program resulted in economies? A. Yes, it has. It has resulted in generating economies as well as economies arising from the simplification of the operation of the distribution system.

At various times during its period of operation, the Commerce Street power plant has furnished four classes of service; namely, 250-volt direct current, 600-volt direct

—1,645— 3591

current, 25-cycle alternating current and 60-cycle alternating current.

The furnishing of this many types of service is inconvenient and it is expensive. The aim of the company has been to standardize on 60-cycle service and in connection with that aim other classes of service have been reduced and 60-cycle service substituted wherever possible.

New customers in the present direct current area served by Wisconsin Electric Power Company, are being served from the alternating current network and the furnishing of

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service to customers in that general area is being given under an arrangement, or rather under a program, which is intended to eventually eliminate the direct current service entirely.

We consider this a step toward economical operation of both power plants and transmission and distribution systems.

Q. Have you data as to the availability for generating purposes of the high-pressure equipment at Lakeside and
3593 Port Washington? A. Yes, I have. Wisconsin Electric Power Company keeps records of the hours of operation of all the units in all its power plants. We have been particularly interested in the availability record of the high-pressure boiler and generating equipment installed in the power plant at Lakeside and Port Washington.

—1,646—

The Port Washington power plant, since the beginning of its operation, has been available the following percentages of time:

3594 In 1936, it was available 89.8 per cent. of the time.
In 1937, 86.5 per cent. of the time.
In 1938, 95 per cent. of the time, and
In 1939, 88.7 per cent. of the time.

The power plant outages which have occurred during the remaining per cent. of the time have been relatively infrequent. Most of them are scheduled.

The Port Washington power plant has been out of service very little because of unscheduled outages. The latest outage of any power plant of Wisconsin Electric Power Company

3595

occurred at the East Wells Street plant early in the spring of 1940.

I mentioned a moment ago that the plant was out of service during the twelve months ending February, 1940, and part of that period was due to this outage, resulting from a bursting super-heater tube.

When this tube burst, it was necessary to shut down the boiler and also shut down the generating unit, taking the entire plant out of service. The load being carried by the plant at the time that outage occurred was immediately picked up by other plants of the system and no interruption, whatever, of electric service resulted.

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—1,647—

The latest outage at the Port Washington plant occurred in the summer of 1939 when a boiler tube failed, requiring the shutdown of the complete plant.

A substantial load was being carried by the plant at that time and when that load was dropped and shifted to the other plants of the company the frequency fell off for a short period. As I recall, the record indicates that the reduction in frequency during that period was less than one cycle. That would mean a loss in speed of less than 1/60 of the speed at which the units were running.

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Service to any of our customers was not interrupted, however, because the spinning reserve at the other plants was sufficient to pick up the load carried on the Port Washington plant.

I previously explained that during the hours of the day in which the major loads are carried, Wisconsin Electric

Power Company maintains spinning reserve equivalent to the load being carried on the largest unit on the system.

That reserve was able to pick up the load dropped by the Port Washington unit without interrupting service to any customers.

An outage of a different type occurred on the system of the Wisconsin Electric Power Company in the fall of 1939 when an aviator flying an airplane decided to try to fly between the wires of a double circuit 132,000 volt line con-

3599 —1,648—

necting the Lakeside plant with the Racine-Kenosha area. By a stroke of providence he managed to get through all right, but he short circuited both circuits of the transmission line. The plane went on through.

(Discussion off the record.)

A. (Continuing) The short circuit on the transmission line caused the circuit breakers of the Lakeside power plant to open, interrupting service to the Racine-Kenosha area. The Racine plant was in operation at the time and by utilizing

3600 the full generating capacity of that station, as well as the full transmission capacity of the 26,400 volt circuits connecting the Lakeside plant with Racine, the company was able to carry the loads in that district until the damage to the line was repaired.

When the circuit breakers on the Lakeside end of the transmission line opened, the sudden reduction of load on the units at that plant caused a momentary increase frequency. This was quickly adjusted for by the governors and normal service continued on the rest of the company's system.

3601

The latest outage on the system of the Wisconsin Electric Power Company, which caused an interruption in service to customers, occurred on January 1, 1937, at about 1:30 a. m. The New Year's celebration was at its height when one of the cylinder heads on an engine in the Commerce Street

—1,649—

plant blew off.

The live steam escaping into the engine room caused moisture to condense on the switchboard and short circuited the switches serving certain feeders in the downtown area. 3602
It was impossible, because of the moisture in the switching room, to reestablish service through those switches, so it was reestablished by bridging the feeders at other points on the system.

For a period of two hours or more a certain portion in the downtown area was darkened.

A circumstance of that kind couldn't occur again because the switching apparatus in the plant is now being located so it will be safe from accidents of that kind.

The old engines have been largely removed and the two 3603
remaining in service are operated very seldom. It is anticipated that within the next few years the two remaining engines in the plant will be removed.

Q. Will you relate the installed generator capacity of the Wisconsin-Michigan group to the electric plant investment of the companies comprising that group? A. The total installed generator capacity in the power plants of the three companies of the Wisconsin-Michigan group, at the end of 1939, was 545,480 kilowatts.

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The total book value of electric plant in service of these three companies at that time was $140,315,612.00

—1,650—

Q. Now, is that before or after depreciation? A. Before depreciation. Dividing the book value by the generator capacity gives an average book figure of $257.05 per kilowatt of installed generator capacity.

This figure represents all electric plant in service of the three companies, including power plants and transmission
3605 and distribution facilities and all other properties devoted to electric service.

According to the census of electrical industries for 1937, the privately owned electric utilities in the United States had an electric plant investment of $11,936,205,264.00 and an installed generator capacity of 32,192,918 kilowatts.

On the basis of these two figures, the average investment per kilowatt of all privately owned electric utilities in the United States was $370.77, which is substantially higher than the $257.05 for the three companies of the Wisconsin-Michigan group.

3606 One of the reasons why the investment per kilowatt of the Wisconsin-Michigan companies is low, is that the investment in the power plants of Wisconsin Electric Power Company is low.

I have previously stated that the investment in the Lakeside plant amounts to only $83.68 per kilowatt, and that the investment apportioned to the present capacity in the Port Washington plant is $79.59 per kilowatt.

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In keeping down their investment in facilities required to serve their customers, the companies of the Wisconsin

Michigan group have gone far toward lowering the cost of service to their customers.

Q. Is the combined generating capacity of the Wisconsin Michigan group adequate for its present requirements? A. Yes, it is.

The three companies in this group have power generating facilities with a total dependable generating capacity of 501,310 kilowatts. Of this total, 445,700 kilowatts of capacity is in the generating stations of Wisconsin Electric Power Company. 3608

The Lakeside plant——

Q. (Interposing) Excuse me for a moment. You are distinguishing, are you, between installed capacity and dependable capacity at this point? A. Yes; I will expand that distinction.

The installed generator capacity of a power plant is the rated or name-plate capacity of the generators in that plant and is normally considered the maximum load which those generating units may be called upon to carry continuously. The dependable capacity of a generating station is a measure of the load which that station may be depended upon to 3609 carry at the time the need for capacity is the greatest.

The reason why the dependable capacity of a steam plant

may be different from its installed capacity is that in some instances, such as at the Commerce Street plant of the Wisconsin Electric Power Company, the boilers are required to furnish steam for heating purposes as well as steam for operating the turbines.

If the boilers have just sufficient capacity to drive the electric generating units at the rated load, they will be

unable to furnish steam for heating purposes in addition to that.

When the boilers are furnishing steam for heating purposes, therefore, they are incapable of furnishing enough steam to drive the generating units at the rated load and as a result the dependable generating capacity of the plant is something less than the installed capacity of its electric generators.

In answer to the question as to whether the generating
3611 capacity of the three companies is adequate to serve the loads placed upon them, I was pointing out that the dependable capacity of these plants is adequate to carry such loads.

The total installed generator capacity of the generating stations of the three companies of the Wisconsin Michigan group is 545,480 kilowatts and the dependable capacity of those same stations—that is, the load which those stations may be depended upon to carry at the time the combined load upon all of them reaches its maximum—is 501,310 kilowatts.

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Of this total amount, 445,700 kilowatts is the dependable
3612 capacity of the stations of Wisconsin Electric Power Company.

The Lakeside plant has a dependable capacity of 303,000 kilowatts. This figure is less than the installed capacity of 310,800 kilowatts because of the fact that the older turbines in the plant are no longer as efficient as they were originally and require more steam from the boilers to drive the generators connected to them at full load.

The boiler plant of the Lakeside station is also limited in its steaming capacity by the fact that fuel of a lower heat

content is now being burned there than was considered in the design of the furnaces and boilers.

The combination of these two circumstances—that is, the reduced steaming capacity of the boiler due to the use of lower grade coal, and the increased steam requirements of the older turbines—makes it impossible for the boilers to furnish enough steam to drive all the generating units in the plant at rated load.

The dependable capacity of the Port Washington plant is 80,000 kilowatts, the same as its installed generator capacity. 3614

The Commerce Street plant, at the end of 1939, was capable of furnishing a dependable capacity of 27,000 kilowatts.

As I explained above, the boilers in the Commerce Street

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plant are called upon to furnish so much steam for heating purposes during the winter months that they are unable to drive the generating unit at full load during that time.

The dependable capacity of the East Wells Street station is 13,700 kilowatts which is the same as the rated capacity of its turbo-generator. 3615

The Racine plant may be depended upon for 22,000 kilowatts, which is 1,500 kilowatts below rated capacity.

Here, again, capacity of the boilers, coupled with limited capacity of piping connecting the boilers with the turbines, reduces the ability of the plant to deliver electrical energy.

The generating stations of Wisconsin Gas & Electric Company are not considered as having any dependable capacity at all.

I have explained that the steam plant at Waukesha is not in regular operation and the three small hydro-electric plants

are operated only when there is enough water in the streams to drive their generating units.

The hydro-electric plants of Wisconsin Michigan Power Company have a combined dependable capacity of 33,900 kilowatts.

Q. As compared with an aggregate installed capacity in the case of the hydro-electric plants of what? A. As compared with a combined installed generating capacity of 36,280

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3617 kilowatts.

Q. Now, that dependable capacity of these hydro-electric plants is available only at certain times of the year, but is treated as dependable capacity in this instance for what reason? A. It is treated as dependable capacity in this instance because that is the capacity which the operating records of the plants show could be available at the times when the peak demands on the system occur.

There are other times of the year when the load-carrying ability of the hydro-electric plants of the Wisconsin Michigan Power Company drops to a figure in certain years of less

3618 than 33,900 kilowatts, but those occurrences come at times when the load on the system is not at its peak and it is of no importance whether the capacity is available at that time or not, as long as there is enough of it to carry those reduced loads.

The dependable capacity of the Appleton steam plant is 20,000 kilowatts, the installed generator rating, and that of the Iron River Diesel engine plant is the same as its generator rating of 1,710 kilowatts.

The maximum demand which has occurred up to the present time on the combined systems of the three companies

was 350,600 kilowatts, and took place on December 19, 1939. Of this demand, Wisconsin Michigan Power Company carried 40,000 kilowatts, and Wisconsin Electric Power Company

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carried 310,600 kilowatts.

At the time that demand was placed on the system of the three companies, the dependable capacity available to carry load exceeded that demand by 150,710 kilowatts, which may be considered system reserve at the time of the maximum all-time peak. 3620

This amount of reserve is more than adequate, inasmuch as it more than covers the ratings of the two largest units on the system.

Reserve requirements based on the capacity of the two largest units on the system are considered adequate inasmuch as they would provide continuous service in case the largest unit on the system were out of service for repairs and some unforeseen accident should occur to the second largest unit which, at that time, might be carrying load.

The two largest units now on the system of the three companies are the 80,000 kilowatt unit at Port Washington, 3621. and one of the 60,000 kilowatt units at Lakeside, making a total of 140,000 kilowatts which may be compared with the reserve capacity of 150,710 kilowatts.

Q. You have already testified that an additional unit is under construction at Commerce Street, and that an additional unit is proposed at Port Washington. Completion of those two units will add how many kilowatts to the rated

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generator capacity of the combined system? A. Completion

of the installation of those two units will add a total of 115,000 kilowatts to the rated generator capacity of the plants of the three companies.

Q. And would you anticipate that that full amount would be dependable capacity? A. Yes, it will be entirely dependable.

Now, in addition to the 35,000 kilowatts of generating capacity which will be added to the Commerce Street plant in the form of a new unit, the dependable capacity of the
3623 present equipment in the Commerce Street plant will be increased to 30,000 kilowatts by the added boiler capacity which is going in along wtih the new generating unit, so that the dependable capacity of the system will be increased by the 35,000 kilowatts representing the new unit, plus 3,000 additional kilowatts representing the improvement in boiler capacity at the Commerce Street plant.

This means that the total additional dependable capacity resulting from the installation of the Commerce Street unit and the Port Washington unit will be 118,000 kilowatts.

Q. You have also testified that a storage reservoir at
3624 Michigamme in the Wisconsin Michigan territory, is under construction, and that completion of that reservoir will add additional capacity to the system. Will you state the amount of that capacity? A. The additional capacity that will be

realized at the present power plants of the Wisconsin Michigan Power Company on the Menominee River, through the completion of the Michigamme River Reservoir will be 3,700 kilowatts and the increased output to be released from the utilization of the water which will be impounded and real-

ized at that reservoir will amount to seven and a half million kilowatt hours per year at the present plants of Wisconsin Michigan Power Company.

Q. And is that figure of 3,700 kilowatts to be regarded as dependable capacity? A. Yes, it will be dependable capacity of the highest order because it will result from the utilization of water whose flow will be under control.

Mr. Hamilton: This is a convenient stopping point, Mr. Examiner. 3626

The Examiner: All right, we will recess until 10:00 o'clock tomorrow morning.

(Whereupon, at 4:30 o'clock p. m., the hearing was adjourned until 10:00 o'clock a. m., September 13, 1940.)

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BEFORE THE

Securities and Exchange Commission

Docket No. 59-10

IN THE MATTER

of

THE NORTH AMERICAN COMPANY, *et al.*

3629

Hearing Room 1102,
Securities and Exchange
Commission Building,
Washington, D. C.,
Friday, September 13, 1940.

Met, pursuant to adjournment, at 10:00 o'clock a. m.

Before:

W. W. SWIFT, *Trial Examiner.*

3630

Appearances:

CHARLES S. HAMILTON, JR., and
S. PEARCE BROWNING, JR., of Sullivan & Cromwell, 48 Wall Street, New York City, Attorneys for the Respondents.

RALPH C. BINFORD, and
MISS E. H. CALKINS, Attorneys for the Securities and Exchange Commission.

Edward H. Schmidtman—By Respondents—Direct 3631

PROCEEDINGS

The Examiner: The hearing will come to order.

EDWARD H. SCHMIDTMAN resumed the stand and testified further as follows:

Direct Examination by Mr. Hamilton (Continued):

Q. Are the transmisison and distribution facilities of the Wisconsin-Michigan group adequate for the companies' 3632
requirements? A. Yes, they are. The companies have continuously kept pace with transmission and distribution requirements by extending and strengthening their systems wherever increased loads indicated that additional capacity was required or would be required.

The frequency and voltage on the systems of the companies is maintained according to high standards. Transmission lines and sub-stations are carefully designed in order to perform adequate service, and also to furnish that service at minimum investment and operating cost.

As a part of the programs of the companies to keep even 3633
with or ahead of transmission and distribution requirements, there will be constructed at the time the new generating unit goes into operation at Port Washington plant, another transmission line from Port Washington to the Milwaukee area.

There will also be built another sub-station, which I have

previously mentioned, to operate at voltages of 132,000 and 66,000, which will have an initial capacity of 15,000 k. v. a.

The initial section of this sub-station is expected to go into operation early in 1941, but the plans for the sub-station provide for an ultimate capacity of 90,000 k. v. a.

Wisconsin Gas & Electric Company now has under construction a 26,400 volt transmission line between the cities of West Bend and Kewaskum. That line is indicated on Exhibit 32 as being under construction.

The transmission circuits now operating at 26,400 volts between West Allis sub-station in the Milwaukee area, and
3635 the Watertown sub-station, are soon to be reconverted to operation at 66,000 volts.

The transmission and distribution facilities of the companies are now adequate to serve present loads and these additions to facilities will keep the system well ahead of requirements for some time to come.

Mr. Binford: Mr. Examiner, some matters affecting the Milwaukee Company financing are being taken up downstairs. I wonder if we could have half an hour recess?

3636 The Examiner: There is no objection to that, is there?

Mr. Hamilton: No objection.

The Examiner: All right. We will just recess until you get back.

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(Discussion off the record.)

The Examiner: Mr. O'Dell has come in to take Mr. Binford's place and we can resume.

By Mr. Hamilton:

Q. Had you finished your statement, Mr. Schmidtman? A. Yes, I had,

Q. Is it the practice of the companies in the Wisconsin-Michigan group to carry on a tive sales promotion campaigns? A. Yes, it is the practice of the three companies of the Wisconsin-Michigan group to carry on active sales promotion work.

Each company has been actively engaged in work of 3638
this kind for a number of years. The promotional work carried on by the companies is directed at all classes of service and each company carries on its programs along the lines considered best suited to the circumstances under which it operates.

Wisconsin Electric Power Company is the largest of the three companies and has carried on the most active and most extensive sales promotion work of the three.

The same general policies governing the sales promotion activities of the Wisconsin Electric Power Company have also governed similar work of the other companies and so in 3639
describing some of the examples of the kind of promotional activities that are carried on, I will choose most of them

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from Wisconsin Electric Power because they offer the widest range of type.

The sales promotional work of Wisconsin Electric Power Company is carried on largely by people in the sales department. In order to facilitate that work and to organize it along logical lines, the sales department has been set up so as to consist of eight individual divisions. These divi-

sions include the general office division, the appliance service division, the merchandise stores division, the home service bureau, the lighting and rural sales division, the power sales division, the range sales division, and the water heater sales division.

All of these divisions have a bearing on the promotional work carried on by the company, but those most actively engaged in this work are the home service bureau, the lighting and rural sales division, and the power sales and range
3641 sales and water heater sales divisions.

Inasmuch as advertising is an important element in the promotion of sales, the advertising department operates under the direction of the vice president and sales manager, so that the work of the sales department and of the advertising department are closely coordinated in promoting the sales of electric service.

Q. How is promotional work in the industrial field carried on? A. Industrial promotional work is carried on by

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the power sales division of the sales department.

3642 We regard the industrial field as one of the most important fields served by the system of the companies inasmuch as it represents not only the bulk of the sales made with respect to kilowatt hours, but that field also furnishes a major portion of the revenue received for electric service.

There is still another reason why we regard industrial sales as of great importance to the companies and that is that in offering attractive rates and carrying on promotional policies which result in maintaining a high industrial consumption of electricity in our area, we feel that we are en-

couraging the industrial growth of the communities where we operate, and in so doing raise general standards, make it possible for the territory to support greater population, and in that manner indirectly promote sales of other classes of service.

In the power sales group there are five general power sales engineers who maintain contact with all the power customers of the company.

Q. You are referring now to Wisconsin Electric Power Company? A. Yes, Wisconsin Electric Power Company, 3644 specifically. The other two companies carry on similar promotional work but on a smaller scale.

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The industrial territory of Wisconsin Electric Power Company is divided into five areas or districts and one of the five power sales engineers is assigned to each of these five districts.

The power sales engineers handle all power problems brought up by the power customers within their respective districts.

They serve as electric power advisers to their customers 3645 and are under instructions to give the customers the most sound advice they can and are also instructed that if any customer brings up any problem concerning the application of power to his business and the power sales engineer is unable to handle it individually, he will bring it in to the general office and someone will be found who can give the customer the kind of advice and technical assistance that he needs in meeting his particular problem.

Each power sales engineer keeps a careful watch over the demand and consumption of each of his customers, and if

he discovers that any customer is approaching a point where the magnitude of his consumption, either with respect to demand or with respect to consumption, is bringing him to a point where he can qualify for a different class of service at a lower rate, it is the job of the power sales engineer to advise the customer to that effect and recommend his shifting from the rate under which he is then taking service to

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the other rate under which he could qualify for lower
3647 charges.

They also advise the installation of corrective equipment which is electrical equipment that may be installed by customers to improve the power factor of the load they place upon the company's lines.

Ordinarily, this power factor equipment consists of capacitors which draw a leading current and offset the lagging current normally drawn by the type of motors which most industrial customers use in their processes.

A large number of customers, who were originally taking service at secondary voltages and were paying the higher
3648 rates charged for secondary service, have installed their own substations and have changed over to primary service and are now being served under the primary rates, which, because of the fact that the customer owns and operates his own substation, are lower than those of the secondary service.

The power sales engineers also advise customers on such matters as proper methods of installing motor-drives for their various machines and in making their factory wiring lay-outs, the installation of metering equipment and all sorts of special applications of electricity to their processes.

The primary object of the power sales engineer is to make sure that the customers assigned to him are getting their

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electric power service at the lowest possible cost under which they can qualify with respect to the company's rates.

As a result of their activity, the industrial power customers of the company have considerable confidence in those individuals and there are many instances in which the power customers have consulted the power sales engineers on matters only remotely related to power matters, but the engineers 3650
have taken their jobs so seriously and have worked so earnestly in the interest of the customers, that some of them have been considered by outsiders to be more representatives of the customers than they are of the company.

The result to the company of this type of promotional activity has been distinctly beneficial with respect to the extent of use of power service by industries in the territories served.

One of the engineers in the power sales division is assigned to industrial heating applications of electricity. He covers the entire industrial area served by Wisconsin Electric Power 3651
Company and maintains contact with all industries in that area which have or may have heating applications of electricity in their manufacturing processes.

The activities of the industrial heating engineer have brought to the system of the company considerable load such as electrical heat-treating and melting of the kind I spoke

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of in connction with the Bucyrus-Erie Company, and general furnace operations, as well as a relatively recent applica-

3652 *Edward H. Schmidtman—By Respondents—Direct*

tion of electricity manufacturing processes in the baking and drying of enamels by the use of infra-red light. A special type of furnace has been constructed and made available to industries that utilizes infra-red energy for drying and baking enamels.

Our industrial heating engineer has had contact with a number of customers who have made installations of that type.

Another of the engineers in the power sales division is
3653 assigned to the load resulting from air-conditioning equipment.

In the territory served by the companies in Wisconsin and Michigan, the summers are relatively short and not particularly severe. As a result of that condition there has been no rapid development in the use of electricity for air-conditioning.

A number of installations have been made, however, in some of the larger stores in downtown Milwaukee and we feel that the work of the air-conditioning engineer has been distinctly beneficial in encouraging the installation of that type
3654 of equipment.

Two engineers in the power sales division concentrate on commercial cooking and baking applications of electricity.

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They cover the entire territory of the company and maintain continuous contact with hotels, restaurants, bakeries, and all other customers with cooking or baking applications of electricity.

Another group within the power sales division makes special studies of various types related to the sale of elec-

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tricity for general power purposes. They study rate problems including the effect of special rate provisions and proposed rate provisions and also make extensive studies on the relative economies of private plants operated by certain customers as compared with power purchased from the Wisconsin Electric Power Company.

The activities of this group on studies of this kind have been quite influential in reducing the number of private generating stations operated by customers within the territory of the company.

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It has been the policy of the sales department for a number of years to stand willing to furnish service to customers who have generating facilities sufficient to produce a part of their own power requirements. By being willing to connect with such customers and furnishing stand-by or break-down service to them at the standard rates applicable for such service, the company has been successful in establishing contact with a large number of customers who were not willing to purchase their entire power requirements and who would

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not have taken any service from the company at all if the company had insisted on rendering all of it or none of it.

By establishing these connections, the company has been in position to take over the complete service of many of these customers when their own power generating facilities have either worn out or have become obsolete or inapplicable to the uses which they formerly served.

The Wisconsin Electric Power Company is now furnishing the total electrical requirements to thirty-two industrial customers who formerly generated all of their energy, and to

3658 nine industries which formerly generated a part of their energy.

The company is also supplying a part of the electrical requirements of twenty-seven customers who previously generated all of their power and to ten industries who have always generated a part of their own requirements.

These figures show a material reduction in the number of private plants operating in the territory and an appreciable increase in number of customers now being served who
3659 formerly were not served.

We feel that the investigations and recommendations of the special group of the power sales division has played a large part in this progress.

Q. Does Wisconsin Electric Power Company cooperate —1,671— with dealers in its territory in the sale of electric appliances? A. Yes, it does. Dealer cooperation is really the foundation upon which the entire merchandising policy of Wisconsin Electric Power Company is based.

3660 The company conducts merchandising efforts on small appliances and lamps and sells ranges and water heaters, and also carries on extensive dealer cooperation in the sale of ranges and water heaters.

The companies of the group do not sell commercial electric equipment of any kind, but confine their activities to appliances and other electrical equipment suited for use in the home.

In 1938, the dealer cooperation policy was strongly emphasized by a sales promotion program which strongly increased the extent of cooperation between the company and

the dealers. Wisconsin Electric Power Company held a meeting of the electrical dealers, contractors and material houses which was attended by more than 1,800 representatives of these concerns.

At that time, the company agreed to furnish the advertising, to furnish all instructions to purchasers, do the servicing of all appliances under the sales guarantees, and to also finance sales contracts of the dealers.

Those policies have continued in effect and are still being followed today. 3662

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Wisconsin Electric Power Company finances electrical dealers and contractors for rewiring residential and farm buildings, and also finances the sale of electrical farm equipment.

In financing these wiring projects and appliance sales, the company purchases the installment payment contracts from the dealers so that the dealers are not required to carry substantial charge accounts and by so doing, the dealers and contractors are kept in position to make additional sales and to make additional installations without coming 3663 gradually to the point where their capital is all tied up.

The company assists contractors who are unable to finance accounts in carrying out such financing. The services of the company engineers are available on problems related to air-conditioning, commercial cooking and baking, without any charge.

These services, you will note, apply to commercial applications of electricity.

The company refrains from direct sales of any general power and lighting equipment or air-conditioning or com-

3664 *Edward H. Schmidtman—By Respondents—Direct*

mercial refrigeration, or commercial cooking, baking, heating or ventilating equipment.

Those fields are left entirely to the dealers. The company does cooperate, however, in the sale of such equipment by furnishing free the services of its engineers that are quali-

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fied to give advice on problems relating to it.

Q. The purpose of this program, of course, is the increased use of electricity, is it not? A. Yes, that is the entire
3665 purpose of the program.

Q. And has the program been successful in that regard? A. Highly so.

Q. Now, without detailing too much the promotional policies which Wisconsin Electric Power Company has pursued, would you illustrate some of those particular projects that have been undertaken to indicate the general character of the promotional work in other respects than you have already indicated? A. Wisconsin Electric Power Company has conducted certain special programs in connection with its general sales promotion campaign at various times during
3666 recent years.

One of them that was conducted in 1938 was called the "Gift-of-the-Month" plan. It was carried on over a period of several months and was sponsored jointly by the company and by electrical dealers in the territory.

It consisted of a limerick contest. The first four lines of the limerick would be supplied on an official entry blank, and the contestant would supply the last line. The limericks all referred to electrical service, of course, and considerable interest was aroused by the contest.

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Each month, prizes were awarded consisting of major electrical appliances. The purposes of this contest were, first, to identify the location and identity of the various electrical dealers within the territory so that the public would become conscious of the fact that the dealers are there ready to serve them.

Another idea was to bring the people into the stores. That was accomplished by requiring the entries to be made on an official entry blank which could be obtained only from the dealers. 3668

Another object was to create interest in the particular appliance being offered as a prize each month and also to make the public electrical-conscious by bringing the subject to their attention.

Considerable interest was shown in this "Gift-of-the-Month" plan as indicated by the fact that during the year, 41,000 entries were made. Many customers were brought into the stores and the dealers, themselves, were quite enthusiastic over the results of the plan because it accomplished the four purposes it was intended to, and also stimulated the interest of the dealers, themselves, because they felt 3669 called upon on repeated occasions to explain to the customers that electric service can be had at low cost under the rates in effect. —1,675—

(Discussion off the record.)

By Mr. Hamilton:

Q. Has the company conducted campaigns directed to insure adequacy of wiring in homes and offices of customers in the territory? A. Yes, it has. The adequate wiring

program of the company was inaugurated in 1938 and is being presently continued as one of the regular promotional policies. Realizing that the limited capacity of the wiring installations in many older buildings was a bottleneck in the merchandising of electrical service, Wisconsin Electric Power Company instituted a program in 1938 which has been most beneficial and effective in increasing the sale of electrical service.

This was called the adequate wiring program and was
3671 intended to encourage the installation of more adequate wiring either in existing premises or in buildings under construction at the time.

The industrial organization of the territory, including the Electrical League of Milwaukee, enlisted in this program which was carried on by all branches of the electrical industry in the district.

One of the features of the adequate wiring program was a large and complete wiring display at the Milwaukee Home Show. This home show is conducted annually in the city auditorium. It attracts crowds running up to and above
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100,000 visitors a year.

It is carried on for a period of slightly over a week. The demonstration that was given at the 1938 home show aroused considerable interest and gave the adequate wiring program an excellent send-off.

At that demonstration, wiring specifications were distributed, sample wiring specifications, and it was made clear that the company stood ready to assist architects and builders and contractors in laying out wiring plans for any buildings.

The specifications are also made available to home owners and when a person is in the process of constructing a home, if he will let the company know that he is building the home and request assistance, he will be furnished a complete wiring layout answering all the specifications of the wiring code and incorporating numerous modern developments in the arrangement of wiring circuits so as to provide outlets and switches most conveniently arranged for adequate use of electricity in the home.

The specifications in the standard booklet were distrib- 3674
uted at the home show. The booklets were very well received inasmuch as the first 5,000 that were printed lasted only two months and reprints have had to be made since that time.

In recognition of the owners of homes which have ade-
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quate wiring, certificates are awarded by the Electrical League of Milwaukee certifying that the home at that particular address owned by that individual has an adequate wiring installation.

Q. Have you stated what the Electrical League of Mil- 3675
waukee is? A. The Electrical League of Milwaukee is an organization of electrical dealers and contractors operating in the Milwaukee area.

We have a common interest in that the contractors are anxious to install a type of wiring system that will support the type of lighting and appliances which are considered requirements in a modern home.

The certificate awarded to owners of adequately wired homes are accompanied by an illuminated bronze frame house number carrying the symbol of the Electrical League.

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A number of low-cost homes are under construction at all times of the year in the territory served by the companies, and the tendency among the builders of those homes who are putting them up just for sale is to minimize on the wiring installations.

A number of those homes were under construction at the time the adequate wiring program was instituted in 1938. Contact was established with the builders of those homes and the activity of the adequate wiring program did have
3677 the effect of improving to some extent the wiring being in-

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stalled in those homes.

The company has also been told by a number of those builders that if the adequate wiring program arouses sufficient interest on the part of the public to make it possible for them to recover the cost of more extensive wiring installations on the sale of their buildings, that they will be glad to put them in.

We feel that that has been an appreciable step forward in the elimination of wiring plans which are not considered
3678 up to modern standards.

Q. Are there other promotional programs which the company conducts? A. Yes, there are. The home service bureau, which I mentioned as being one of the divisions of the sales department, conducts cooking and lecture demonstrations regularly throughout the year.

One series of those demonstrations is given during the months of January to June, inclusive, and the months of October to December, inclusive.

These demonstrations are given regularly once a week on electric ranges.

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Another series are given twice a month covering electric roasters. Four times a month there are lecture demonstrations on the use of general electrical appliances in the home,

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including refrigerators, food mixers, washing machines, flat irons and ironing machines, percolators, waffle irons, and all the other standard electrical home appliances.

These demonstrations have been extremely popular among the women of the territory and have had an average attendance of over 200, resulting in attendance for the year 3680
of about 16,000 women.

These demonstrations which are given in the auditorium of the company's main office building, are scheduled as regular demonstrations, but in addition to these, special ones are given by appointment.

In this class would fall demonstrations and lectures given before Parent-Teacher organizations, church groups, and various other women's groups who meet regularly and arrange to have one or more of their meetings during the season in the company building.

These special meetings occur about once a week and are 3681
sandwiched in between the regularly scheduled cooking demonstrations. The average attendance at these is slightly less than at the public meetings, averaging about fifty.

An interesting example of these special demonstrations was a series that was given particularly for brides and prospective brides. The average attendance at these meetings was over a hundred.

Additional demonstrations are given at various points

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3682 all over the territory served and not just within the company's office building.

Our demonstrators go to country churches or town halls, or to any buildings at which the meetings are called, and give their demonstrations covering the particular appliance which is to be covered.

One of the features of these special demonstrations given in the rural territory is that each one is given with the assistance of a modern kitchen sink with hot and cold run-
3683 ning water.

It doesn't matter whether the demonstration is given in a tent, we still have the sink with hot and cold running water because the company maintains a special self-contained unit in a fifty-gallon water heater tank which contains a water storage tank, an electric water heater, and a pump, and special piping which makes it possible to deliver the hot water and the cold water to the sink.

We feel that along with our cooking demonstration that sink not only facilitates the demonstration, but it tells a story between the lines.

3684 A new special training activity was recently instituted for the training of the coming generation of housewives. The classes were conducted at Milwaukee Downer College, which is a women's college located in Milwaukee, on adequate wiring and electric ranges and roasters.

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These demonstrations were so enthusiastically received that the company was requested to extend the scope to include refrigeration, laundry equipment and other residential electric equipment.

Classes are now offered to other schools in the Milwaukee area on the same basis.

Q. The company maintains an electric home display at its present office in Milwaukee? A. Yes, in the sales quarters of the building in space adjacent to one of the sales rooms, the company maintains a completely equipped electric home.

Q. Does that display attract a substantial attendance during the course of the year? A. Yes, it does. The home is open to the public at all times of the year whenever the offices of the building are opened. The attendance is par- 3686
ticularly heavy during the Christmas season when special displays of cookies and candies are made and recipe books, which you will find in a surprisingly high percentage of the households of our territory, are distributed annually to the public.

Our recipe books have been sent to all parts of the country and 60,000 have been distributed on an average ever since the recipe books have been made available to the public.

The average attendance during the Christmas season runs between 1,000 and 6,000 people per day, averaging for a
—1,682— 3687
year about 75,000 visitors.

Q. I think you mentioned that the company maintains a staff of lighting engineers. Will you elaborate a little further without going into detail on what the function of this particular branch of service is? A. Yes. The lighting engineers work with architects, builders and customers on lighting problems. They are the people who prepare the wiring specifications for home owners who request them.

Each man has his own territory and is responsible for maintaining proper contact with customers in his territory.

3688 *Edward H. Schmidtman—By Respondents—Direct*

In connection with the work of the lighting sales engineers, the company maintains in its sales quarters a laboratory for studying lighting equipment and light effects.

The company has also a force of four home lighting advisers who specialize on lighting in homes. These advisers are women who call at homes by appointment or by canvass. Each woman travels in a light sedan delivery truck and carries with her demonstration equipment and portable lamps and a supply of electric light bulbs.

3689 These women have produced appreciable increased sales and additional lighting load and have had a very good effect on customer relationships.

Q. Does the company sponsor a lecture program? A. Wisconsin Electric Power Company sponsors a lecture

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within its territory entitled "The Miracle of Light". This lecture is given by an experienced lecturer in the employ of the company and consists of a demonstration of practical and spectacular lighting effects.

It was conceived in 1934 and was used during the suc-
3690 ceeding four years as a part of the "Better Light-Better Sight" campaign which was carried on all over the country.

In 1938 it was revised by the introduction of special equipment and additional features which made it even more spectacular and popular than it was before.

During the first six weeks of the new form, the lecture was given twenty-one times with a total attendance of over 1,650 people. It is now booked widely for high school assemblies and other groups enjoying an attendance of from 500 to a thousand high school students at each showing. It is given at schools only upon request of the school authorities.

3691

Q Are there campaigns conducted leading toward increased sales of lamp bulbs? A. Each year Wisconsin Electric Power Company conducts two lamp bulb sales campaigns, one in the spring and one in the fall.

Prior to June, 1935, the lighting service schedules of Wisconsin Electric Power Company included free renewal of burned-out lamps to all lighting customers in those schedules

—1,684—

to which free renewals were available.

3692

In June, 1935, a change in electric service rates was made and the free renewal of lamp bulbs was discontinued. In order to make sure that the customers continued keeping themselves supplied with bulbs for replacement of burn-outs, the company instituted the program of conducting these lamp bulb sales campaigns twice a year.

The campaigns are widely advertised by the company and are carried on by the employees and the local dealers. The lamps are sold in sets of six, contained in what is called the "handy household bag", the price of which is equal to the total retail price of each of the six bulbs in the bag.

3693

In order to stimulate these sales, in the fall campaigns the company gives with each bag purchased, a coupon which entitles the purchaser to a free 100 watt bulb. These coupons are accepted by the dealers in exchange for the bulbs and then are redeemed by the company which replaces the bulbs in the stock of the dealers, the particular feature of this being not only to stimulate the sales, but to bring the customer to the dealer's place of business.

Q. Now, here again, as in all these programs which I have described, the intention is to increase the use of electricity, is that right? A. Yes.

3691 *Edward H. Schmidtman—By Respondents—Direct*

Q. And necessarily they would not be conducted unless

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they resulted in increase of sales and service? A. Yes, that is correct. If it appeared that these campaigns were not producing results in the forms of increased sales and service, they would not be continued.

Q. Now, all these illustrations you have been giving relate to Wisconsin Electric Power Company, as I understand it? A. Yes, they do.

3695 Q. You have already stated that the promotional campaign of the Wisconsin Michigan Power Company and the Wisconsin Gas & Electric Company were somewhat more limited. Again, without going into any detail, will you indicate briefly what activities in that direction the latter two named companies do conduct? A. Wisconsin Gas & Electric Company maintains in its office building in Racine, a demonstration kitchen and lecture hall in which meetings similar to those conducted in Milwaukee are held.

Wisconsin Gas & Electric Company also has lighting advisers and power sales engineers who perform functions simi-

3696 lar to those of the specialized groups operating out of the Milwaukee office.

Wisconsin Michigan Power Company has, as one of the features of its promotional work, an electrically equipped kitchen built on a gasoline truck.

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This moving kitchen is necessary in order for the company to reach its widely flung territory.

Wisconsin Michigan Power Company also maintains a force of sales people who devote a portion of their time to promotional activities such as those I have described.

3697

Q. Have the policies of the companies comprising the Wisconsin-Michigan group with respect to electrical rates been progressive in their character? A. They have been very progressive. The management of the three companies has followed a promotional rate policy for many years and rates have been reduced voluntarily by these companies as rapidly as operating conditions made such reductions possible.

These policies have been practiced through a long-range rate reduction program followed by the companies. The structure of the rates is given careful consideration so as to 3698
be designed to benefit the companies as well as the customers.

Simplicity in rate structures has also been sought and the companies have been alert to the need for developing new types of rates to meet the requirements of new or different types of service requirements.

During the early years of operation of the companies, the rates were high in comparison with what they are today. That was true of utility systems all over the country. In

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1907, the year in which the Wisconsin Railroad Commission was created, Wisconsin Electric Power Company made its 3699
original filing of rates on September 1. These rates covered only a single schedule, with two classes of service, one for lighting and one for power.

The lighting rate was 12 cents per kilowatt hour for the first one hundred kilowatt hours per month, and scaled down to four cents per kilowatt hour for all consumption over 600 kilowatt hours per month.

The power schedule started at 8 cents a kilowatt hour for the first 100 kilowatt hours per month and ranged down-

3700 *Edward H. Schmidtman—By Respondents—Direct*

ward to a bottom step of 3 cents per kilowatt hour for all consumption over 600 kilowatt hours per month.

In the case of lighting service, the minimum monthly bill was $1.00 and in the case of the power service, the minimum monthly bill was $2.00 for motors of 2 horsepower or less, plus $1.00 per horsepower or fraction thereof above two.

The company has always followed the policy of having the most advanced type of rates in effect. In keeping with that policy, on September 1, 1910, the original schedules were
3701 revised. The revised schedules which were well ahead of rates in general at that time, provided separate rates for light and power, for residential lighting, for flat rate display lighting, and for short-term light and power, different

—1,688—

schedules for all these different classes of services.

Q. Now, that diversification among classes of service was unusual, was it, at that time? A. It was unusual in Wisconsin. As to what other utilities in other parts of the country were doing, I don't know, but in Wisconsin, this was the first filing of rates that distinguished between these
3702 several classes of service.

These rates also embodied other features which were new in electric rates in Wisconsin, the schedule for lighting service including free renewal of electric light bulbs. The power service schedule made provision for two off-peak demand periods, one covering daytime hours shifting with the seasons, and another covering the period between 10:00 p. m. and 7:00 a. m.

During those periods of the day, customers received a premium for reducing their demands on the peak hours and using the energy during the night hours. The residential

rate schedules at that time contained another feature which was new in electric service rates in Wisconsin.

The consumption steps were based on the number of rooms in the home rather than on the number of hours' use of connected load. The connected load basis was commonly used in the state at that time.

The average home, according to the basis on which the rooms were counted at that time, contained three active rooms resulting in a first step of twelve kilowatt hours which

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was billed at 12 cents, a second step of 88 kilowatt hours which was billed at 5 cents per kilowatt hour, and all consumption over 100 kilowatt hours were billed at 4 cents per kilowatt hour.

This chedule was a substantial reduction from that filed three years previously.

The present rates of Wisconsin Electric Power Company contain 39 different schedules. Three of these are optional schedules carried over from previous schedules which were changed, and the other 36 are the regular schedules which superseded the earlier forms. 3705

Q. Are the present rate schedules promotional in character? A. The residential rates are very promotional in character, in that they encourage customers to increase their use of service by providing for lower unit charges on the higher steps of the schedule.

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Wisconsin Electric Power Company has three different schedules for residential electric service.

Rate 1 covers the Milwaukee metropolitan area including the city of Milwaukee and its immediate suburbs.

3706 *Edward H. Schmidtman—By Respondents—Direct*

Rate 2 covers the Racine, Cudahy and South Milwaukee districts, and rate 3 covers all other electric service territory of the company.

All three of these rate schedules provide for a minimum monthly service charge of 60 cents, which is billed to the customer whether he takes any electricity or not. This service charge is intended to cover the fixed items of rendering electric service such as fixed charges on the investment in facilities, the cost of reading the meter, accounting for the
3707 account, making out the bill, and collecting.

In addition to the monthly minimum fixed charge of 60 cents, rate 1, which is effective in the Milwaukee metropolitan area, specifies a rate of 3.25 cents per kilowatt hour for the first fifty kilowatt hours consumed per month, 2.25 cents per kilowatt hour for the next fifty kilowatt hours consumed per month, 2 cents per kilowatt hour for the next 100 kilowatt hours consumed per month and 1.75 cents per kilowatt hour for all monthly consumption over 100 kilowatt hours.

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These rates are net rates and are not subject to discount.

3708 Q. Or penalties either, is that right? A. No, that is not true. I was going to continue my statement by saying——

Q. Excuse me. A. —that the schedules provide both gross and net rates. If the bill is not paid within the discount period which ordinarily extends ten days beyond the date of delivery of the bill, then it is collected at the gross rate which is shown on the bill along with the net rate.

Rate 2 includes an energy schedule of 2.75 cents per kilowatt hour for the first fifty kilowatt hours per month, 2½ cents per kilowatt hour for the next fifty kilowatt hours per

month, and for all consumption over 100 kilowatt hours per month, the steps of the schedule are the same as those for rate 1.

Here again, these rates are net. Rate 3 for residential service of Wisconsin Electric Power Company provides an energy charge of four cents net per kilowatt hour for the first fifty kilowatt hours consumed per month, 2½ cents net per kilowatt hour for the next fifty kilowatt hours consumed per month, and for all consumption over 100 kilowatt hours monthly the net charges are the same as in rate 1. 3710

Wisconsin Gas & Electric Company also has three residen-

tial rate schedules.

Q. Did I understand you to say "schedules"? A. Yes, three residential rate—well, rate areas—each distinguished by different charges under the same general residential rate schedule.

One of these rate areas includes the Kenosha and Waukesha districts; the second one includes the cities of Burlington, Fort Atkinson, Watertown, West Bend, Barton, and Whitewater; the third one covers all other electric service 3711 territory of Wisconsin Gas & Electric Company.

As in the case of Wisconsin Electric Power Company, the residential rate schedules of Wisconsin Gas & Electric Company provide a minimum monthly charge of 60 cents which is referred to as a service charge and does not carry with it any kilowatt hours to the customer.

The energy steps of the rate in the first two areas served by Wisconsin Gas & Electric Company are the same as the rates charged for electric service under rate 2 of Wisconsin Electric Power Company.

3712 *Edward H. Schmidtman—By Respondents—Direct*

In the third rate area of Wisconsin Gas & Electric Company, the steps of the energy schedule are as follows:

4.25 cents per kilowatt hour for the first fifty kilowatt hours consumed per month.

2.75 cents per kilowatt hour for the next fifty kilowatt hours consumed per month.

—1,693—

2 cents per kilowatt hour for the next 100 kilowatt hours consumed per month; and

3713 1.75 cents per kilowatt hour for all monthly consumption in excess of 200 kilowatt hours.

Wisconsin Michigan Power Company also has three residential rate areas in Wisconsin and also has two in Michigan. In Wisconsin, the first area includes the Appleton-Neenah metropolitan district; the second includes all the southern division which is the territory centering around Appleton, except the Appleton-Neenah metropolitan area; and the third includes the territory served by Wisconsin Michigan Power Company in northern Wisconsin.

3714 In Michigan, the first rate area includes the city of Iron Mountain and Kingsford and the township of Breitung; and the second rate area includes all other electric service territory of Wisconsin Michigan Power Company in the state of Michigan.

All the residential electric service schedules of Wisconsin Michigan Power Company provide for the net monthly service charge of 60 cents.

In addition to that charge, the rate effective in the Appleton-Neenah metropolitan area carries a charge of 3.75 cents per kilowatt hour for the first fifty kilowatt hours con-

sumed per month, 3 cents per kilowatt hour for the next fifty kilowatt hours consumed per month, 2 cents per kilowatt

—1,694—

hour for the next 100 kilowatt hours per month, and 1.75 per kilowatt hour for all consumption over 200 kilowatt hours per month.

The rates for residential electric service in the southern division outside the Appleton-Neenah metropolitan area and in the northern Wisconsin territory are the same. They provide, in addition to the net monthly service charge of 60 3716 cents, an energy charge consisting of 4.25 cents per kilowatt hour for the first fifty kilowatt hours consumed per month and for all consumption over fifty kilowatt hours, the rates are the same as in the Appleton-Neenah metropolitan area.

The residential electric service rates of Wisconsin Michigan Power Company in Iron Mountain, Kingsford and the township of Breitung are the same as those in the Appleton-Neenah metropolitan area, and in all other territory in Michigan, the company's residential service rates are the same as those in the northern Wisconsin territory.

3717

Mr. Hamilton: May this document be marked for identification as Respondents' Exhibit No. 37?

The Examiner: Yes, it may.

(The document referred to was marked for identification as Respondents' Exhibit No. 37.)

By Mr. Hamilton:

Q. Will you explain, Mr. Schmidtman, what Respondents' Exhibit No. 37 for identification purports to portray? A.

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This exhibit is a blueprint chart showing in graphic form the trend of the average price of residential electricity to customers on the system of Wisconsin Electric Power Company and in the United States, as a whole, for the years 1910 to 1939, inclusive.

The price of electricity is indicated in cents per kilowatt hour.

Q. And has this chart been prepared under your supervision? A. Yes, it has.

3719 Q. And the facts shown as to the rate of Wisconsin Electric Power Company have been taken from the record of that Company? A. They were.

Q. Will you state the basis for the curve showing the average for the United States? A. The curve showing the average for the United States was plotted from data published in the statistical bulletin of the Edison Electric Institute.

Mr. Hamilton: I offer the chart in evidence as Respondents' Exhibit No. 37.

Mr. Binford: No objection.

3720 The Examiner: It is so admitted under the number mentioned.

(The chart referred to was received in evidence as Respondents' Exhibit No. 37.)

By Mr. Hamilton:

Q. Data as to Wisconsin Michigan Power Company and Wisconsin Gas & Electric Company does not appear on Ex-

hibit No. 37. Can you give the comparable data for those two companies in terms of average rates for the year 1939? A. As indicated by the curves in Exhibit 37, the average price of residential electricity sold by Wisconsin Electric Power Company in 1939 is slightly over 3 cents per kilowatt hour. The exact figure is 3.01 cents.

The average for the United States as a whole is shown by the exhibit to be slightly over 4 cents per kilowatt hour. The actual figure is 4.03 cents.

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Comparable figures for Wisconsin Gas & Electric Company are 3.75 cents per kilowatt hour for 1939 and for Wisconsin Michigan Power Company 3.44 cents per kilowatt hour.

It will be observed that the figures given for Wisconsin Gas & Electric Company and Wisconsin Michigan Power Company both fall below the average for the United States as a whole.

The Examiner: We will have a short recess.

(Whereupon, a short recess was taken.)

3723

The Examiner: Let us resume, gentlemen.

Mr. Browning: If the Examiner please, we expect that Mr. Schmidtman's testimony will not consume a great deal more time and we had expected that he

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would finish his testimony on Monday. We had then planned to put on the stand Mr. G. W. Van Derzee, vice president and general manager of Wisconsin Electric Power Company.

3724 *Colloquy*

I am now advised that Mr. Van Derzee has received a subpoena to appear before a Federal grand jury in Milwaukee and that he has been told that he will be called before the grand jury some time next week, the exact time being as yet uncertain.

In view of this situation, we feel forced to request an adjournment until Monday, September 23.

In view of the prior discussions on adjournments, I feel that I should add that this adjournment is in
3725 no way an advantage to us, but rather a disadvantage and that we request an adjournment most reluctantly.

Mr. Binford: Mr. Examiner, I understand from counsel for Respondents that there is no other witness available who could continue testimony relative to the properties now under consideration in this case and that they are not prepared to go ahead with any other phase of the case at this time, is that correct?

Mr. Browning: That is correct.

Mr. Binford: Under the circumstances, I have no
3726 objection to granting the motion.

The Examiner: Very well, this proceeding, in view of the circumstances, is now continued until 10:00

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a. m. on Monday, September 23.

(Whereupon at 12:20 o'clock p. m., the hearing was adjourned until 10:00 o'clock a. m., Monday, September 23, 1940.)

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BEFORE THE 3727

Securities and Exchange Commission

Docket No. 59-10

IN THE MATTER

of

THE NORTH AMERICAN COMPANY, *et al.*

3728

Hearing Room 1102,
Securities and Exchange Commission Building,
Washington, D. C.
Monday, September 23, 1940.

Met, pursuant to adjournment, at 10:00 o'clock a. m.

3729

Before: W. W. SWIFT, *Trial Examiner.*

Appearances:

CHARLES S. HAMILTON, JR., and S. PEARCE BROWNING, JR., of Sullivan & Cromwell, 48 Wall Street, New York City, Attorneys for the Respondents.

RALPH C. BINFORD, and MISS E. H. CALKINS, Attorneys for the Securities and Exchange Commission.

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PROCEEDINGS

The Examiner: The hearing will be resumed.

Mr. Browning: If the Examiner, please, we should like to interrupt Mr. Schmidtman's testimony briefly by putting on the stand Mr. Colbert.

The Examiner: Very well.

Mr. Browning: Will you take the stand, Mr. Colbert?

3731 Whereupon, ASEL R. COLBERT a witness produced on behalf of the Respondents, having been first duly sworn, was examined and testified as follows:

Mr. Browning: I should like the record to show that Mr. Colbert is appearing here under subpoena.

The Examiner: Yes, the record will show that.

Direct Examination by Mr. Browning:

Q. Will you give your full name and address to the stenographer? A. Asel R. Colbert, 738 Oneida Place, Madison, Wisconsin.

3732 Q. Will you give us your occupation, Mr. Colbert? A. I am chief of the Accounts and Finance Department of the Public Service Commission of Wisconsin.

Q. How long have you held that position? A. I have been chief of the department since 1935. Prior to that time I was with the department in the capacity of special public

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utility investigator, having first joined the staff of the Public Service Commission in 1931.

Q. You have been with the Wisconsin Commission, then, since 1931? A. I have.

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Q. Are you fully familiar with all of the activities of the Wisconsin Public Service Commission, insofar as regulation of utilities is concerned? A. I am generally familiar with all its activities and particularly familiar with the activities dealing with the utility industry.

Q. Will you tell us, briefly, your experience prior to your joining the staff of the Wisconsin Commission in 1931? A. I graduated from high school in 1920, following which I served a year in the United States Navy. After being discharged from the navy I studied accounting for two years 3734
with Pace & Pace and LaSalle Extension University.

After holding a number of relatively minor accounting positions, I became an accountant with the Chicago Heights Terminal Transit Railroad, at Chicago Heights, Illinois, in 1924.

In 1927, I was associated as an accountant with M. W. Cookerow, C. P. A. and attorney at law, associated with the office of C. Bascom Slemp.

In 1928, I joined the staff of the Federal Trade Commission as an accounting examiner engaged in the investigation 3735
of utility holding companies and their servicing and operat-

ing companies under the Walsh resolution, and as stated, in 1931 I joined the staff of the Public Service Commission of Wisconsin where I remain today.

Q. You were associated with the Federal Trade Commission from 1928 to 1931? A. I was.

Q. Will you please state briefly the history of regulation of Public Utilities by the Public Service Commission of Wisconsin? A. The regulation of utilities in Wsconsin, in

3736 *Asel R. Colbert—By Respondents—Direct*

its modern form, commenced in 1905 when the Railroad Commission of Wisconsin was organized and assumed jurisdiction under the statutes of the Railroad and Telegraph carriers.

In 1907, the regulatory act was broadened so as to include the regulation of electric, gas, water and telephone utilities. The Act was again modified in 1911 so as to increase the statutory authority over the regulation of security issues of utilities.

3737 In 1931, the Railroad Commission of Wisconsin was reorganized as the Public Service Commission of Wisconsin and the statutes broadened so as to give the Commission increased jurisdiction over transactions between affiliated companies and to provide also for the assessment of the cost of regulation against the utilities regulated.

Briefly, from 1907 the Commission has had broad powers

—1,703—

over the regulation of utilities and has regulated, effectively regulated, the issues of utility securities since 1911.

3738 Q. What is the present composition of the Commission and its staff? A. The Commission is composed of three members appointed by the Governor for terms of six years each. The Commission's staff is organized into several departments which may be classified as the administrative department, consisting of the Secretary of the Commission, and the necessary stenographic and clerical force to take care of the detailed office routines.

There is a legal department consisting of trial examiners and staff attorneys of approximately fourteen.

The engineering department consists of about forty employees whose duties, as the name implies, is to take care

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of those phases of regulation in which engineering ability is necessary.

We have a rates and research department comprised of about thirteen employees whose duties are basically to exercise continuing jurisdiction over the rates charged by the utilities. We have an accounts and finance department of which I am the chief, which has thirteen employees and whose duties are to administer the accounting regulations of the Commission and the regulation of securities of the utility companies.

3740

There is also a transportation division which administers the statutes dealing with the regulation of the railroad and motor carriers.

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All in all, there are about 150 employees with the Commission.

Q. Will you please describe briefly for us how the Wisconsin Commission exercises its jurisdiction over public utilities? We might take rates first. A. The Commission does exercise jurisdiction over the rates of utilities. All rates must be filed with the Commission and must be approved before they are legal rates.

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Our rates and research department exercises continual supervision of the rates. For example, we not only receive from the utilities an annual report covering the operations of the preceding year, but we receive a monthly report covering the results of operations for each of our large electric utilities, which covers about 85 per cent. of the gross revenues derived from the sales of electricity in the state.

3742 *Asel R. Colbert—By Respondents—Direct*

These reports are under continual review by the staff and if the indications are that returns being earned are too high, negotiations are undertaken with the utility looking towards a reduction of the rates.

If agreement can not be reached, formal proceedings may be instituted by the Commission on its own motion. There are, of course, also the cases which originate on complaint of the customers.

By and large, the Commission follows the process of reg-
3743 ulating by negotiation to a considerable extent as we have found that actions can be quicker and in general more satis-

—1,705—

factory where negotiations are undertaken rather than by the immediate institution of a formal proceeding.

In continuing the method of exercising jurisdiction over rates, my department, the accounts and finance department, reviews the reports of each of the utilities. We submit, as a matter of routine, a statement to the rates and research department whenever we find a utility whose reports indicate that its returns are on the high side, following which rates
3744 and research will take the necessary steps looking toward reduction in rates.

We have been rather successful in obtaining rate reductions in Wisconsin. Commencing in 1931, when the Commission was reorganized as the Public Service Commission, our rates were a little higher than the national average and our consumption a little lower than the national average.

In the succeeding ten years, we have reversed that situation. Our consumption has been increased above the national average and our rates have been reduced below the national average.

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Q. How does the Commission exercise its jurisdiction over service furnished by the utilities? A. Our engineering department has a separate group of engineers engaged in checking the service rendered by utilities. Upon receipt of a complaint from customers as to the quality of service rendered, the matter is investigated by this staff and if a

complaint is found warranted, action is required to correct the situation.

In addition to the inspections upon complaint, this service 3746
inspection is going on continually as a matter of routine. It covers such matters as the voltage at which the current is delivered, the frequency of the current, the error which may be found in the reading of the meters, the listening and talking qualities of telephone service.

In addition to this service inspection work, the Commission has established certain rules governing the service standards in order to assure that the customer is given reasonably adequate service.

Those rules are under revision at the present time. It is
expected that through the revision of our service rules, the 3747
quality of service may be even improved.

Q. Will you tell us what the Commission does with regard to the accounting procedures of the utilities in Wisconsin? A. The Commission has prescribed a uniform system of accounts which applies to all the various classes of utilities operating in the state.

The first system of accounts was prescribed effective in 1909, and since that date, there has always been a prescribed system of accounts in effect in Wisconsin.

3748 *Asel R. Colbert—By Respondents—Direct*

The latest system was made effective January 1, 1938, and is substantially the same as that prescribed by the Federal

—1,707—

Power Commission. We require each of the utilities to submit a rather comprehensive report to the Commission annually, giving the facts concerning the operations and the financial status of the utility, together with a considerable amount of statistical information concerning the physical characteristics of the utilities plant.

3749 These reports are reviewed in the office and if inaccuracies are noted, action is taken with the utility looking toward a correction of its accounts.

We, likewise, inspect the records of a large number of utilities annually. All in all, there are about 1,200 utilities operating in the state. Of course, many are very small, involving only $5,000.00 or less of annual revenue. We can not attempt to audit the accounts of all these utilities, but we do try to cover a large number of them each year and advise them in connection with their records, hoping that by this continual advisory procedure, we will obtain improve-

3750 ment in the accounting methods of the small utilities.

The large utilities are audited at rather frequent intervals. Within the last few years, we have been making investigation of the accounts of all of our large electric utilities in connection with the determination of the original cost of their properties.

The accounts and finance department, likewise, administers the security statutes. Each application for security issues——

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3751

Q. (Interposing) Before we get to the security issues, Mr. Colbert, you have testified that some eight utilities which you characterize as "large utilities," do approximately 80 per cent. of the business in the state? A. About eight electric utilities do about 80 to 85 per cent. of the electric business in the state.

Q. Do those eight include Wisconsin Electric Power Company, Wisconsin Gas & Electric Company, and Wisconsin Michigan Power Company, the three Wisconsin subsidiaries of the North American Company? A. They do.

3752

Q. And it was in reference to those eight utilities that you said that you conducted frequent audits? A. Yes, those and others as well.

Q. Did you state how long the utilities had filed annual reports with the Wisconsin Commission? A. The utilities have filed annual reports since 1909. I think the first report was required to be filed for the year ended June 30, 1909.

Q. Are those reports open to the inspection of the public? A. They are.

Q. You were about to describe the Commission's exercise of its powers with respect to the security transactions. Will you describe that? A. Under the statutes, the Commission

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has rather broad powers over the issuance of securities by public utilities. Each utility must file an application with the Commission asking for approval of the issuance before the securities may be sold or issued.

These applications are investigated by the accounts and finance department and recommendations made to the Commission with respect to the security issues.

3754 *Asel R. Colbert—By Respondents—Direct*

We have, I think, a very good record in connection with regulation of utilities securities. The loss sustained by investors who have put their money into bonds of Wisconsin electric, gas, telephone or water utilities, is just negligible when compared with the total amount of securities issued.

We are gradually working toward an improvement in the securities of our utilities. In connection with most of the refunding operations, which have occurred in recent years, the Commission has insisted upon sinking fund provisions
3755 being included in the bond indenture so that gradually a reduction in the debt of the utilities may be effected.

A further act which the Commission has taken, which should be far-reaching in its effect on the securities of Wisconsin Utilities, is in connection with depreciation accounting.

About two years ago, the Commission issued orders that each electric, gas, water and telephone utility should file their estimates of depreciation expense for certification by the Commission under the terms of the statutes.

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3756 Certifications have been issued since that time so that today, with one or two relatively minor exceptions, depreciation rates have been certified for all of the Class A and B electric, gas, water and telephone utilities operating in the state.

I might explain that Class A and Class B utilities include those having more than $50,000.00 of annual revenue.

As a consequence of these actions by the Commission, depreciation reserves for electric utilities have increased substantially. They now amount to about 22 per cent. of the

property of the utilities as contrasted with the national average of depreciation reserves of about 11 or 12 per cent. of the depreciable plant.

It is interesting to note also that in connection with a subject as controversial as depreciation, the Wisconsin Commission has been able to certify depreciation rates for all of these utilities with only one hearing involving the electric and gas utilities, and that hearing was directed to the method of accounting for depreciation rather than to the depreciation estimates, themselves. 3758

Q. Does the Commission engage in valuation of utility property? A. It does whenever valuations are necessary. In many rate cases reproduction cost new appraisals of the property will have to be made and our engineering depart-

—1,711—

ment engages in such work.

There are, of course, cases where appraisals are necessary in connection with the transfer of ownership of property from one utility to another, or from a utility to a municipality in an acquisition case.

Work is also under way at the present time, whereby a 3759
continuing property record will be established for the large electric and gas utilities. This continuing property record is designed to show the number of units of each class of plant and has as its goal, among other things, perpetuation of information which will permit appraisals to be made with a minimum of time and expense.

The statutes provide that the Commission shall value the property of utilities and originally that was done for practically all of the larger utilities in the state. These original

3760 *Asel R. Colbert—By Respondents—Direct*

appraisals were made from about 1909 to 1915 following the organization of the Commission.

The reappraisals have been made subsequently when, as and if necessary.

Q. Does the Commission exercise jurisdiction over consolidations, mergers and acquisitions of utility assets? A. Yes. The statute requires that the Commission give its consent and approval to the transfer of a complete operating unit or system from one utility to another, or to any merger

3761 —1,712—

or consolidation of utility properties.

As a consequence, it is impossible for any of the utilities in Wisconsin to merge or to purchase the assets of another utility, or to dispose of their assets to a utility or to any other person, unless if first obtained the consent and approval of the Commission, and in giving its consent and approval, the statutes require that the Commission must give consideration to the public interest.

Q. Is a certificate of convenience and necessity required to be obtained by a utility before it engages in certain con-

3762 struction? A. In certain instances the Commission grants authority to construct property and no utility may construct additions to the property over and above a certain amount unless it first obtains the authority of the Commission.

An illustration of that is in connection with a proposed addition to the Port Washington Plant of the Wisconsin Electric Power Company; that addition can not be made under the statutes until the company obtains the approval of the Commission to that construction.

Company utilities are required to get approval from the Commission before extending their lines into new territory.

The Commission also has power to issue certificates of convenience and necessity to competing utilities in the event that the service rendered by one utility was found to be improper, and inadequate. That power has been exercised

—1,713—

rarely, if ever, but nevertheless the statutory power is there.

Q. Does the Commission scrutinize transactions between affiliated interests? A. It does. The affiliated interest statute was passed in 1931. Under that statute the Commission is 3764
empowered to inquire into transactions between affiliated interests. It can inquire into the cost to the affiliated interest of any service rendered to the operating utility and the statute provides that it can disallow, in fact, that it shall disallow any items unless there is reasonably adequate proof of the cost of those services.

The Commission, under that statute, has required the utilities to file their arrangements with affiliated interest with the Commission and has scrutinized, and in a number of cases, has approved, these inter-company contracts where it has been deemed in the public interest to do so. 3765

Q. What is the largest electric utility in Wisconsin? A. Wisconsin Electric Power Company.

Q. Do the three Wisconsin subsidiaries of the North American Company constitute the largest utility group in the state? A. They do.

Q. Is the size of the utility any factor in the effective regulation thereof? A. I think that size per se has no effect

—1,714—

on regulation. They have essentially the same problems whether the utility be small. In some respects size might

3766 *Asel R. Colbert—By Respondents—Direct*

make for a reduced cost of regulation in that it would be necessary to deal with only one company as contrasted with a large number of small companies.

Now, there may be a point where size would become a factor such as including the entire utility business of the state within one single company, but as far as I can see, I think size, of itself, does not affect regulation.

Q. Does the fact that the North American Company owns or controls the common stock of the three Wisconsin sub-
3767 sidiaries affect the scope or character of the regulation of those three subsidiaries by the Wisconsin Commission? A. It has not.

Q. Does the existence of the affiliation between the three Wisconsin subsidiaries impair the effectiveness of regulation of those companies? A. No.

Q. Does the fact that Wisconsin Michigan Power Company does business in both the states of Wisconsin and Michigan impair the effectiveness of regulation of that company by the Wisconsin Commission?

3768 Miss Calkins: Just a minute. I think that line of questioning is objectionable because it calls for conclusion of the witness.

—1,715—

This man is undoubtedly an expert, but I think that is an improper line of questioning as to whether or not these relationships between North American and the subsidiaries and the crossing of state lines and the affiliation between these three companies has anything to do with the effective regulation of these companies.

I think it calls for a conclusion of the witness which is improper.

The Examiner: Please read the question to me.

(Whereupon, the pending question was read by the reporter.)

The Examiner: Objection overruled.

Miss Calkins: Exception.

The Witness: It has had no effect on the regulation of the Wisconsin Michigan Power Company. 3770

By Mr. Browning:

Q. Has the Wisconsin Commission experienced any difficulty in the regulation of these three Wisconsin subsidiaries of the North American Company?

Miss Calkins: Same objection for the same reason.

The Examiner: I will overrule the objection.

Miss Calkins: Exception.

The Witness: We have had no difficulties in the regulation of the North American subsidiaries operating in Wisconsin. When I say "no difficulties," I don't mean to imply that there haven't been difficulties in the regulatory problems that apply to these 3771

—1,716—

particular utilities, but regulation, per se, has been no more difficult with these utilities than it has with others.

Mr. Browning: That is all.

3772 *Asel R. Colbert—By Respondents—Cross*

Cross Examination by Miss Calkins:

Q. Mr. Colbert, in speaking of the difficulties of regulating the Wisconsin Michigan group of North American properties, you were referring only to the experience within your personal knowledge since you have been with the Commission, that is, since 1931? A. Yes.

Q. Now, I believe you are the chief of the accounts and finance department of the Commission, is that correct? A.
3773 That is.

Q. In your opinion, are you familiar enough with the work of the other departments to testify that those departments have experienced no difficulty in regulating this particular group of companies? A. Yes.

Q. In referring to the statute passed in 1931, which related to transactions, the authority of the Commission in what might be termed inter-company transactions, do I understand you correctly, in believing that the company does not have to come to the Commission for approval of inter-company transactions, but that the Commission has author-
3774 ity under this statute to inquire into them and to make such

—1,717—

rulings after inquiry as may be necessary? For instance, suppose that one of the companies in this group wished to make an upstream loan to the parent company in any amount, would the company have to go to your Commission to get approval of that transaction, or would your Commission simply inquire into it if it felt that it was desirable to do so? A. Upstream loans isn't a good example, because upstream loans are barred in Wisconsin by statute.

3775

Q. Well, take some other instance of an inter-company transaction. A. A good example might be a servicing arrangement.

Q. Yes. A. The contractual arrangement for the rendering of a service is not valid or effective until the approval of the Commission is obtained.

Q. Well, is that under specific statute which relates only to service contracts as such, or is that under this general statute which relates to the transactions between affiliated companies? A. It is Section 196.52 of Wisconsin statutes, which deals specifically with the relations of utilities with affiliated interests.

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Q. Is that a very long section? A. Yes.

Q. I thought maybe it was just a paragraph or two, but

—1,718—

it is two or three pages? A. Yes, it is two or three printed pages.

Mr. Browning: The statute is in evidence.

By Miss Calkins:

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Q. Does the Wisconsin Commission regulate only the issuance of securities which are to be sold to the public, or does it also regulate the issuance of securities to an affiliated company? A. It regulates any securities issued by a public service corporation regardless of to whom the securities are issued.

Q. Now, on your direct examination, you stated that the Commission had effectively regulated security issues since 1911. Now, I don't want you to misinterpret my question because I understand that the Wisconsin Commission has

3778 been one of the leaders in the field of regulating public utilities, but I wish you would elaborate upon that, if you can. A. I don't believe I quite understand just what sort of elaboration you refer to.

Q. Well, the word "effectively" is what is bothering me, Mr. Colbert. In the very beginning of your examination, describing generally the work of the Commission, I think you used that exact language, that they had effectively regulated security issues since 1911. A. I see. The question of
3779 the degree of effectiveness of regulation becomes, of course, a matter of opinion. In my judgment, I think our regula-

—1,719—

tion of securities in Wisconsin has been effective.

Now, I know that it has been effective in my opinion since 1931. It is true that you can go back into the history of security regulation in Wisconsin and you can find transactions which occurred, which I would not consider, judged by present-day standards, the best regulation.

I do not believe, however, that the comparison of what happened twenty years ago should be made with what would
3780 be considered good today, but rather that the comparison should be with what happened in Wisconsin as compared with what was happening elsewhere at about the same time.

I believe that our regulation of securities in Wisconsin has been effective as measured or as compared with what was happening elsewhere at about the same time with respect to issues of securities of the public service corporations.

Q. Well, generally speaking—I don't know whether you are familiar enough with the other statutes regulating utility companies in other jurisdictions—but, is it your opinion that

the statutes of Wisconsin give your Commission broader powers than are generally given such regulatory bodies? A. I am not familiar with what the statutes in all other jurisdictions provide, but I do think that our statute in Wisconsin is very broad.

First, it declares that the right to be a public service —1720—
corporation is a special privilege and that the right of supervising and regulating the issuance of securities shall be vested in the state. 3782

We start, then, with the premise that a public service corporation has no vested right to issue securities in Wisconsin. It is privileged to do so upon obtaining the approval of the state. Our statute further provides that the amount of securities which a public service corporation may issue, shall bear a reasonable relation to the value of the property and to each other.

That is, that the classes of securities shall be proportionate, and the Commission is also authorized to consider the proposed undertakings of the corporation and whether the acts which the corporation intends to do are prudent and afford reasonable protection to the purchasers of securities. I think the whole statute might be summed up by saying that its purpose is to assure that the purchaser of the security is afforded reasonable protection. 3783

We, of course, know he is not guaranteed protection.

Q. Mr. Colbert, would you say that during your experience——

(Discussion off the record.)

3784 *Asel R. Colbert—By Respondents—Redirect*

By Miss Calkins:

Q. Mr. Colbert, would you say that during your experience as an employee of the Commission, that the regulation of the issuance of securities by the utilities Commission operating in Wisconsin, has become increasingly effective? A.

—1721—

I think so. I think, in fact, that it has reflected the tenor of the times. That is, that following the collapse of the se-
3785 curities market in 1929, that the public generally, and regulatory bodies as well, were more concerned with securities. They realized that regulation of securities, perhaps, should be more stringent than it had been in the past.

Now, we haven't any more statutory power today than we had in 1911 with respect to the regulation of securities. There has been some modifications in the statute during that period but essentially it is the same statute.

I believe the administration of it has reflected to a certain extent the tenor of the times and that it has been better in the last ten years than it was in the preceding ten years.

3786 Q. I believe you testified on direct examination, but since I am not sure, I will ask you: Are your Commissioners elected or appointed? A. They are appointed by the Governor with the confirmation of the Senate.

Q. For a six-year term? A. For a six-year term.

Miss Calkins: I think that is all.

(Discussion off the record.)

—1,722—

Redirect Examination by Mr. Browning:

Q. Counsel asked you certain questions with regard to the effective regulation of utilities and in your replies you dis-

cussed certain comparisons and tests, such as the test of Wisconsin against other states. Do I understand correctly that your experience is that the state can effectively regulate the activities of the utility company if it chooses so to do?

Miss Calkins: We object to that on the ground that it calls for a conclusion of the witness.

The Examiner: I think that calls for a conclusion of the witness.

Mr. Browning: Mr. Examiner, it certainly does 3788
call for a conclusion. This witness is an expert witness and he is testifying as to his opinions. It is entirely proper in this case for the witness to give conclusions.

The Examiner: Read the question to me again.

(Whereupon, the pending question was read by the reporter.)

The Examiner: I think that that question is proper on cross examination and I overrule your objection.

Miss Calkins: Well, this is redirect. 3789

The Examiner: Well, he is touching on some matters that you brought out in your cross examination as I get this question.

Miss Calkins: I have no objection to the question if it could be modified to the extent of asking for this

—1,723—

witness' opinion based upon his experience.

Mr. Browning: I submit that the question is proper as framed.

The Examiner: I will overrule the objection.

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Miss Calkins: Exception.

The Witness: I think the State of Wisconsin has ample power to effectively regulate its Wisconsin utilities.

By Mr. Browning:

Q. And in your opinion, the State of Wisconsin does effectively regulate its public utilities?

Miss Calkins: Same objection for the same reason.

3791

The Examiner: I make the same ruling and you may note your exception.

The Witness: Considering the regulation of utilities as a whole, in my opinion, it has been and is relatively effective. They have not attained perfection in regulation and perhaps we never will, but I think it has been a reasonable and effective regulation.

By Mr. Browning:

Q. Do you feel that any other regulation of your Wisconsin utilities is necessary?

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Miss Calkins: Objected to on the ground that it is incompetent, irrelevant and immaterial.

The Examiner: I sustain the objection.

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Mr. Browning: Mr. Examiner, it seems to me that, in the first place, the witness is amply qualified to express an opinion on that, and in the second place, that the cross examination was directed to the effectiveness of regulation. The cross examination brought

out certain tests and comparisons. I submit that the question is proper.

Miss Calkins: Cross examination was directed exclusively to an elaboration or explanation of the witness' statement on his direct examination.

Mr. Browning: The Witness is certainly entitled to express his opinion as to effective regulation of utilities.

The Examiner: Yes, but your question asks him if other legislative regulation will improve the situation. It seems to me that is outside of the scope of this hearing and it is irrelevant. That was the basis of my ruling. 3794

Mr. Browning: I think it is very much within the scope of this hearing, Mr. Examiner, because you are trying here, issues which are going to involve not only questions of statutory construction, but questions of constitutionality.

One of the frequently reiterated phrases in this Act is the effectiveness of state regulation. My questions are directed to that subject. 3795

I will reframe the question to replace the last question.

By Mr. Browning:

Q. In your opinion, is any other regulation of the Wis-

—1,725—

consin utilities necessary in addition to that which is now being administered by the Wisconsin Commission?

3796

Colloquy

Miss Calkins: Objected to on the grounds that the opinion of the witness on that subject is incompetent, irrelevant and immaterial.

The Examiner: I don't see much, if any, difference between the question as you reframed it and the original question, and I sustain the objection and if you care to make an offer of proof for the record, you may do so, Mr. Browning.

Mr. Browning: Might it be better to let the witness

3797 answer with a motion to strike?

The Examiner: Yes. What have you to say to that, Miss Calkins?—to let the witness answer the question subject to a motion to strike on your part later on?

Miss Calkins: In addition to the objection that the question is irrelevant, immaterial and incompetent, I should also like to add that I further object on the grounds that the witness is not qualified to answer.

The Examiner: Well, I think the suggestion is a good one, the suggestion of counsel is a good one, and

3798 I will overrule your objection subject to your right to strike the response if you care to enter it later on.

Mr. Browning: Will you read the question?

(Whereupon, the pending question was read by the reporter.)

The Witness: The question is very broad and has tremendous implications involved. In some respects,

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it may be that regulation other than the state is unnecessary. In other respects, joint jurisdiction over

3799

some phases of the utilities operations may be desirable.

I don't think that one can answer the question categorically yes or no.

To illustrate, I believe that under our Wisconsin statute, we have very broad, very comprehensive jurisdiction, over the issues of securities of public utility companies, and in order to assure reasonable protection to purchasers of those securities, no further jurisdiction would be necessary.

3800

There are other phases of the utilities operations involving transactions with affiliated interests where additional regulation might be in the public interest.

There are cases of the interchange in power, movement of power over state lines into adjoining districts, where the situation might call for further regulation.

I just can't answer that question categorically, yes or no, because it is just too much involved.

Mr. Browning: That is all.

3801

Recross Examination by Miss Calkins:

Q. I believe you testified on direct examination, Mr. Colbert, that for some period of time you were associated with the Federal Trade Commission during its investigation of holding companies and their subsidiaries prior to the enact-

—1,727—

ment of the Public Utility Holding Company Act. Is that correct? A. I was with the Federal Trade Commission for three years.

3802

Q. What was the nature of that investigation? A. I worked in the investigation of Electric Bond & Share Company, Middle West Utilities, United Public Service Corporation, United Public Utilities, Central Illinois Public Service Corporation, and a number of other utilities whose names I don't recall.

Q. Was that work primarily of an accounting nature? A. Yes.

Q. In your opinion is the regulation provided by the Pub-
3803 lic Utility Holding Company Act of 1935 unnecessary?

Mr. Browning: Just a minute. Go ahead.

The Witness: Well, that is another one of those very broad questions that I certainly could not answer yes or no to.

Congress has deemed it necessary to pass this Act and we have it as a statute and there are many, many portions of that Act that I think are in the public interest.

By Miss Calkins:

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Q. But you don't subscribe to all parts of it, is that correct? A. I don't think so, but I think, in general, I am very

—1,728—

much in sympathy with the Act, and with what is intended to be accomplished.

Q. Mr. Colbert, are you the author of a recent publication in the Public Utilities Fortnightly—I don't know the exact title of it, but it deals with usurpation of state power by S. E. C. regulation. A. I am the author of that article, the title of which is "The S. E. C. Limits State Jurisdiction."

The Examiner: You may retire. That is all, Mr. Colbert.

(Witness excused.)

The Examiner: Let's have a little recess before we take up anything further.

(Whereupon, a short recess was taken.)

The Examiner: Let us resume.

3806

Whereupon, EDWARD H. SCHMIDTMAN resumed the stand and testified further as follows:

Direct Examination by Mr. Hamilton (Continued):

Q. Mr. Schmidtman, prior to the last adjournment, you were in the process of commenting on Respondents' Exhibit No. 37, which is the exhibit with reference to average price of residential electricity. Had you finished your comment? A. No, I hadn't. I should like to add to what I have already said on this exhibit a few more comments. 3807

—1,729—

It will be noticed that prior to 1916, the average price of residential electricity sold by Wisconsin Electric Power Company was at about the same level or slightly higher levels than that for the United States as a whole, but that following the year 1916, the average price for Wisconsin Electric Power Company was substantially below the national average.

3808 *Edward H. Schmidtman—By Respondents—Direct*

In 1910, the average price per kilowatt hour of residential electricity on the system of the Wisconsin Electric Power Company was 11.4 cents.

In 1939, it had dropped to 3.01 cents per kilowatt hour. The reduction during the period shown by Exhibit 37 on the system of Wisconsin Electric Power Company was steadily, although not entirely, uninterruptedly downward.

A rise occurred in the years following 1917, coming about as a result of increased costs resulting from the World War.

3809 Similar data for Wisconsin Gas & Electric Company, and Wisconsin Michigan Power Company are not available over the period of years covered by this exhibit inasmuch as those companies, up until quite recently, did not segregate residential sales as a separate class of service in their statistics.

The residential sales were included with the general classification called "lighting," and for that reason, it is impossible for us to give statistics over this period for those two companies. We do have the data for the year 1939, however, which show that——

3810 —1,730—

Q. (Interposing) I think you have given the figures for 1939. A. Oh, have I given that? I am sorry. I didn't mean to repeat.

Q. What are the rates provided for large industrial users in the territory? A. Large industrial users in the territory served by our three companies are given attractive rates. I have pointed out before that our managements believe that low industrial rates are of great importance in the over-all service rendered to our communities by our companies. In

attracting industries to our districts, such rates actually contribute to the general welfare.

In line with that policy, the industrial rates of our companies have been kept at as low levels as would be consistent with reasonable earnings on the class of service rendered.

Wisconsin Electric Power Company serves the largest industrial load of the three companies and because of the concentration and magnitude of that load is able to offer 3812
the lowest industrial rates of the three companies.

The industrial rate of Wisconsin Electric Power Company is applicable to customers taking service at primary voltages of 3,800 volts, 13,200 volts, or 26,400 volts, who furnish their own sub-stations for stepping-down the voltage to voltages at which they can use the energy in their plants, and who guarantee a minimum demand of 100 kilowatts.

—1,731—

The rate offered to such customers has a demand schedule and an energy schedule. The demand schedule has two parts, one specifying certain peak hours for which a certain 3813
demand schedule applies, and the other part specifying a different schedule for the off-peak hours.

The demand charge which is made for demands which the customers place on the company system during the specified peak hours, start with $1.90 per kilowatt per month for the first 200 kilowatts of demand. Then they follow with $1.50 per kilowatt per month for the next 1,800 kilowatts demand, $1.25 per kilowatt per month for the next 2,000 kilowatts of demand, and $1.00 per kilowatt per month for all demands in excess of 4,000 kilowatts.

The off-peak demand charge which is offered to customers as an inducement to get them to make their heavier demands during the hours of the day when the over-all peaks on the system are not at their maximum, begins with a rate of $1.00 per kilowatt per month for the first 200 kilowatts of demand and 75 cents per kilowatt per month for all demands over 200 kilowatts.

The operation of the off-peak provisions of our industrial primary rate has had a marked effect on the time of
3815 occurrence of the peak demands on the system of the company.

Some years ago, it was a regular thing for the peak demands to occur in the afternoon or evening hours, whereas today we have normally anywhere between eight and ten or

eleven of the monthly peaks in the year during the morning hours of the day.

This is due to the shifting of the industrial peak from the evening peak hours to the morning hours and this shift-
3816 ing of the peak has come about as a result of the operation of the off-peak provision of the industrial schedule.

Now, this provision of the schedules is not peculiar to our companies, but we feel that it has been of great value to us in making it possible for us to serve the loads we are now carrying, with less generating and transmission capacity than would be required if that shift had not occurred.

The consumption might be the same as it is today, but still without the off-peak provisions of the industrial rate, the company would have to provide, in addition to the capacity now used during the evening peaks, sufficient capacity

to carry that load which has been shifted from those hours to other hours of the day.

The energy charge of the industrial rate begins with a first step of 25,000 kilowatt hours per month, for which the charge is 1.25 cents. The next step——

Q. (Interposing) Per kilowatt hour? A. Yes; per kilowatt hour. The next step of 25,000 kilowatt hours per month is charged at the rate of 1.1 cents per kilowatt hour.

—1,733—

The next 50,000 kilowatt hours per month are billed at 3818 one cent per kilowatt hour.

The next 50,000 kilowatt hours per month are billed at .9 of a cent per kilowatt hour.

The next 50,000 kilowatt hours per month are billed at 8/10 cents per kilowatt hour.

The next 100,000 kilowatt hours per month are billed at .7 of a cent per kilowatt hour.

The next 700,000 kilowatt hours per month are billed at 65/100 of a cent per kilowatt hour.

The next 1,000,000 kilowatt hours per month come at .6 3819 of a cent per kilowatt hour.

And the next 2,000,000 kilowatt hours per month are billed at 58/100 cents per kilowatt hour, and all in excess of 4,000,000 kilowatt hours is billed at a rate of 55/100 cents per kilowatt hour.

Q. Are these energy charges to which you refer applicable whether energy is taken off-peak or on-peak? A. Yes, there is no distinction in the energy schedule as between off-peak or on-peak consumption. That distinction is drawn only in the case of the demand charge.

3820 The rates I have just given are gross and all bills rendered under this schedule of rates are subject to a standard discount of 5 per cent. on the first $25.00, and 1 per cent. on all amounts in excess of $25.00.

—1,734—

The bills are also subject to adjustment for cost of coal. The basic charge in the rates is founded on a coal cost of 20 cents per million B. t. u. at the power plants, and the bills are adjusted in direct proportion to the amount by which
3821 the actual coal cost exceeds or falls below the stand of 20 cents per million B. t. u.

For a number of years, in fact as long as I have been with the company, the coal factor adjustment has always been a credit to the customer; that is, our coal cost has been below 20 cents per million B. t. u.

The bills are also subject to an adjustment which rewards the customer for maintaining a power factor in excess of 80 per cent. This adjustment is applied as a direct reduction of the demand in direct proportion to the amount by which his power factor exceeds 80 per cent.

3822 The bills are also subject to a load factor clause which rewards the customer for maintaining a use of maximum demand in excess of 200 hours per month. That is, if the customer's kilowatt hour consumption is divided by his maximum measured demand during the month, and the quotient exceeds 200, his demand charge is reduced in accordance with the amount by which his hours use exceeds 200.

This provision is put into the rate to encourage more continuous use of the demands imposed upon the system, or another way of putting it would be to say to encourage the

customers to take their consumption at lower maximum
—1,735—
demands.

The industrial power rate has a provision which specifies that after the application of the standard rate schedule and the coal factor and power factor adjustments and the load factor adjustment, if any is earned, the net bill shall not be less than 75/100 of a cent per kilowatt hour.

Several of our large customers earn an average rate of 3824
75/100 of a cent per kilowatt hour.

Q. That includes both the demand and the energy charge? A. Yes, that is the total net bill after all adjustments and after discount.

Q. Have the companies in the Wisconsin-Michigan group, from time to time, acquired small public utility systems? A. Yes. During the history of the three companies of the Wisconsin-Michigan group they have acquired an appreciable number of small utility systems.

Q. And what has been the effect upon the rates applicable to those communities after the acquisition by the companies 3825
in the Wisconsin-Michigan group? A. In every case of acquisition of a small electric utility system by one of the companies of the Wisconsin-Michigan group, the effect has been a reduction of the rates charged for electric service immediately upon acquisition.

It has been the policy of the companies to immediately place into effect in the territory of such acquired systems,
—1,736—
the rates applicable to such territory on the system of the acquiring company and in every instance, the change has been

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in the direction of reducing the charge for electric service to the customers of the system acquired.

Mr. Hamilton: May this table be marked for identification as Respondents' Exhibit No. 38?

The Examiner: Yes.

(The table referred to was marked for identification as Respondents' Exhibit No. 38.)

3827 *By Mr. Hamilton:*

Q. Mr. Schmidtman, will you explain what Respondents' Exhibit No. 38 for identification purports to portray? A. Exhibit No. 38 is a tabulation listing the communities in which local distribution systems have been acquired by the three companies of the Wisconsin-Michigan group and showing the net bill for residential monthly consumption of 40 kilowatt hours immediately prior to acquisition, immediately after, and the net saving resulting from the change in rates.

Q. And the percentage of saving? A. And the percentage of that saving.

3828

Q. Has this table been prepared under your supervision? A. Yes, it has.

Q. And the facts shown are taken from the records of the respective companies? A. They were.

—1,737—

Mr. Hamilton: I offer it in evidence as Respondents' Exhibit No. 38.

Miss Calkins: No objection, but I would like to ask the witness if each of the names in the right-hand

column represent separate towns or communities and separate systems?

The Witness: You mean the left-hand column, don't you?

Miss Calkins: Yes.

The Witness: The names represent communities and in some instances more than one community was covered by the same system acquired. That is, each name given in the list does not represent a separate system. 3830

In many instances one community does represent one system. In some instances more than one community was covered by the same system.

The Examiner: Are you through, Miss Calkins?

Miss Calkins: Yes, I said no objection to the admission of the exhibit.

The Examiner: The tabulation is now received in evidence under the number mentioned.

(The table referred to was received in evidence as Respondents' Exhibit No. 38.)

3831

By Mr. Hamilton:

Q. Do you care to comment on this exhibit, Mr. Schmidtman? A. Yes. There are a few comments that might be made.

—1,738—

The five communities listed under Section A of this tabulation, "Utilities acquired by Wisconsin Electric Power Company," were served by local electric utility systems which were acquired during the period from 1913 to 1930. These

were all private utility systems except that at Port Washington, which, prior to acquisition by Wisconsin Electric Power Company, was operated by the City of Port Washington.

The communities listed in Section B of the exhibit were served by local utilities acquired by Wisconsin Gas & Electric Company during the period from 1916 to 1931.

The last one to be acquired by that company was that at West Bend.

3833 The communities listed under Section C of this exhibit were served by local utilities which were acquired by Wisconsin Michigan Power Company during the period from 1923 to 1929. Most of these acquisitions, as I have just pointed out, were made a number of years ago and numerous rate reductions have been made in these communities since the dates of their acquisition by the companies of the Wisconsin-Michigan group.

Such rate reductions are not reflected in this tabulation, however, inasmuch as the purpose of this exhibit was to show the effect on rates of the changes from the schedules in effect

3834 immediately prior to acquisition, to the schedules of the acquiring companies immediately after acquisition.

Q. Expressed in terms of percentages, will you state very

briefly the range indicated by the exhibit of savings to customers? A. Yes. The savings to the customers in the communities served by the systems which were acquired by Wisconsin Electric Power Company ranged from 12 per cent. in Port Washington to 56 per cent. in the Village of Dousman.

In the case of Wisconsin Gas & Electric Company, the saving in the twenty-six systems acquired ranged from a mini-

mum of 19 per cent. in West Bend to the maximum of 73 per cent. in the community of Bristol.

In the case of Wisconsin Michigan Power Company, which acquired systems in twelve communities, the savings ranged from 18 per cent. in the communities of Loretto, Michigan, Niagara, Wisconsin, and Alpha, Michigan, to a maximum of 51 per cent. in the communities of Powers and Spalding, Michigan.

In the case of Powers and Spalding, the communities were served by the same system prior to acquisition, but that was 3836
not true in the case of the three communities in which the 18 per cent. saving was made. They were all separate systems, although the rates in effect prior to acquisition happened to be the same.

I should also add here that the monthly consumption of 40 kilowatt hours which was used in computing these bills was selected as a typical consumption for customers on those systems at that time.

—1,740—

The rates under which the net bills prior to acquisition, 3837
and the net bills immediately after acquisition, were computed, were filed rates.

Q. What has been the record of the companies in the Wisconsin-Michigan group with respect to rate reductions? A. The rates charged for electric service by the three companies of the Wisconsin-Michigan group have been reduced on a very impressive scale for a period of years. Since May 1, 1926, Wisconsin Michigan Power Company has made one or more reductions in its electric service rates in every year except 1930.

The savings to customers resulting from those rate reductions of which there were fifty-eight, amounted to at least $2,569,600.00 accumulated up to June 30, 1940.

Q. Now, will you explain the basis on which you arrived at the figure you have just given? A. Yes. I stated it as being at least that much because of the method that was used in computing the figure. At the time each rate reduction was made, a calculation was carried out to determine the amount of the reduction in revenue which would result from
3839 that rate change in terms of the number of customers taking service under the rate affected and the consumption of those customers.

The saving computed on that basis for each rate change, as indicating the annual saving to the customers, has been multiplied by the period of time elapsed since the date of the

change, and the total of those figures is the $2,569,600.00. The reason this figure represents appreciably less than the actual saving realized is that it is built up of amounts based on the number of customers affected at the time the rate was
3840 changed, and the amount of energy consumed by those customers at that time.

Now, both of those elements have changed considerably since the time of the rate change, particularly in the case of changes that were made a number of years ago.

The number of customers on the schedules affected by these rate changes has increased and the consumption of the customers who were taking service at that time has increased, but this saving does not recognize those changes because the determination of their effect on the saving would be a very involved computation requiring considerable re-

search and we have felt that rather than to go to the labor of computing this change in number of customers by classes and the consumption of customers, and the effect of the various steps of the rate, that we are more conservative in stating the minimum figure.

Just how much the actual saving would exceed the figure I have given, I am not prepared to say, but a computation of this general type was made on another utility system some years ago and the indication was that the actual saving was several times that computed on the basis we have used 3842 here.

—1,742—

Q. Have you comparable data for Wisconsin Gas & Electric Company? A. Yes, I have. Since 1921, through to the end of 1939, Wisconsin Gas & Electric Company has made one or more rate reductions, in every year.

The total number of reductions made during that period is eighty-four and the accumulated saving to the customers, based on the same method of calculation as that I have just described for Wisconsin Michigan Power Company, amounted to $8,685,500.00. 3843

For Wisconsin Electric Power Company, the number of reductions made since May, 1921, is eighty-seven. One or more reductions have occurred in every year except 1923. The accumulated saving to the customers of that company, down to June 30, 1940, amounts to $38,292,487.00.

Here, again, this figure is computed on the basis I have described and the actual saving, recognizing increased use and increased number of customers, would be substantially greater than this figure if we were able to compute it.

3844 *Edward H. Schmidtman—By Respondents—Direct*

Q. At what date have you computed the accumulated savings for Wisconsin Gas & Electric Company? A. To June 30, 1940.

Q. Have any of the companies in the Wisconsin-Michigan group had in effect a so-called free electricity plan? A. Yes. Wisconsin Electric Power Company, and Wisconsin Gas & Electric Company placed into effect what was called the

—1,743—

free electricity plan in the year 1934, and Wisconsin Elec-
3845 tric Power Company offered the plan again to its customers in 1935.

Q. Will you explain what that plan was? A. This plan was something quite new as a means of promoting the increased use of electricity by customers of a utility system. The plan consisted of an offer under which the customers, whose use normally declines in the summer and consists principally of lighting, were given permission to use an unlimited amount of electricity in the months of May and June of each of those years, with the understanding that their
3846 charge for service would be no higher than it was in March.

Q. Of that same year? A. Of that same year. The purpose of this plan was three-fold. Firstly, it was intended to stimulate the greater use of electricity by our customers through giving them an opportunity to use the service more freely; that is, to develop a more liberal use of electricity, to develop higher consumption habits.

Second, the companies hoped to achieve a permanent increase in consumption from the additional appliances which the customers would naturally buy and use during the free electricity period; and

Third, it was intended to avoid the usual seasonal decline in consumption of electricity at that time of year.

Now, it was possible to carry this plan out because of the

—1,744—

availability of surplus hydro-electric power from the system of the Wisconsin Michigan Power Company. The plan was offered to residential, rural, and commercial lighting customers, whose use, as I have stated, normally varies with the seasons.

Combined light and power customers of the commercial 3848
class, whose use was largely lighting, were also given the privilege of participating under the free electricity plan. This plan proved to be a very effective means of increasing the consumption of electricity by the customers of the companies.

It resulted in a more extensive use of the service through longer hours of furnishing of light and use of appliances, and through the purchase and use of additional appliances which the customers did not have before the plan went into effect.

Statistics were kept on the operations of the plan in 3849
both the years 1934 and 1935, and those statistics show that in 1935, the acceptance of the plan as measured by the number of customers availing themselves of it, and the extent to which they made use of the free service, was considerably higher in the latter year.

In 1934, a total of 62,186 customers, or 29 per cent. of the customers eligible to take free electricity, actually participated in the plan.

Now, those 62,000 were made up as follows: 53,304 were residential customers, representing 28 per cent. of the resi-

3850 dential customers of Wisconsin Electric Power Company; 1,616 of the rural customers participated, representing 53

—1,745—

per cent. of the rural customers; 7,266 commercial customers, representing 31 per cent. of the customers in their class, participated in the plan.

In the same months of 1935, that is in the months of May and June, the participation was appreciably higher, including 71,590 residential customers, or 36 per cent. of the
3851 class; 1684 rural customers, who were 57 per cent. of the eligible rural customers; and 9,171 commercial customers constituting 39 per cent. of the eligible commercial customers; total number of customers participating in 1935 was 82,445, which were 37 per cent. of the total number of customers eligible to take the service.

In 1935, the number of participating customers not only increased, but the participating customers made more extensive use of the free service than did those participating in 1934. In 1934, the average customer participating in the
3852 plan received 107 kilowatt hours of free electrical energy. In 1935, the average participating customer used 166 kilowatt hours of free energy.

In 1934, the participating customers used a total of 6,624,649 kilowatt hours of free electricity.

Had this electricity been billed at regular rates as an addition to the consumption the participating customers took in March, the revenue for that service would have amounted to nearly $201,000.00.

—1,746—

3853

In May and June of 1935, the free consumption was more than twice as great as that in 1934, amounting to 13,685,582 kilowatt hours.

If this energy had been billed at regular rates, it would have cost the customers over $371,000.00. The average free electricity taken by the participating customers in 1934, as I have stated, amounted to 107 kilowatt hours, and would have cost $3.25 at the standard rates.

In 1935, the average participating customer received 166 kilowatt hours of free energy which would have cost him $4.50 if he had been billed for that service at the regular rates.

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When I speak of 1935 in this respect, I mean the months of May and June. The use of free service in the months of May and June, 1934, constituted an average increase of 51 per cent. over the billed consumption in those months, while in May and June of 1935 the free service taken by the participating customers amounted to 90 per cent. of the consumption for which they were billed in those months.

In 1934, the free electricity plan was offered for only the two months of May and June. It was based upon the bills for service rendered in March because it took some time to get the plan under way and properly advertised so the customers of the companies offering it would know it was about and how they would go about taking advantage of it.

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It was necessary to base the charges under the free elec-

tricity plan on a month for which the bills had already been rendered in order to avoid a situation in which customers planning to avail themselves of the opportunity would reduce

3856 *Edward H. Schmidtman—By Respondents—Direct*

their consumption in the base month in order to establish a low basic charge.

For that reason, March was used. The month of April was occupied in developing the plan and presenting it to the customers, and in the months of May and June, it went into effect.

Q. Are these statistics, which you have given, applicable only to the experience of the Wisconsin Electric Power Company? A. Yes, they are.

3857 Q. They do not include the experience of the Wisconsin Gas & Electric Company? A. No.

Q. And did the plan accomplish the purposes which it was intended to accomplish? A. Yes, it did. It was so successful in 1934 that Wisconsin Electric Power Company decided to offer it again in 1935.

After the months of May and June in 1935 had passed, the plan was still working so successfully as a means of changing the habits of customers with respect to use of electricity, and, as I will point out later, as a means of increasing the sale of major appliances, that the manage-

3858 ment of Wisconsin Electric Power Company decided to extend it on through the summer.

—1,748—

That was done and the plan was extended from June to October in 1935.

The usual seasonal decline in consumption of lighting customers which occurs during the summer months had some effect on the extent of participation in the plan during the summer months and the number of participating customers dropped off somewhat from the number that had participated in May and June.

The average for the six-months' period for 1935 indicates that 58,520 residential customers, or 30 per cent. of their class participated; 1,244 rural customers, or 42 per cent. of their class participated; and 9,148 commercial customers participated, representing 39 per cent. of their class.

The total number of participating customers in the average month for the six-months' period, was 68,912 and constituted 31 per cent. of the total customers eligible to participate under the free electricity plan.

3860

During the six-months' period, the customers participating in the free electricity plan in 1935, used a total of 32,636,346 kilowatt hours of free electricity.

Q. This is total for 1935? A. This is total for 1935, yes, the six-months' period. This amount of free electricity was equal to 79 per cent. of the electricity for which those participating customers were billed in that period.

The average residential consumer participating in the plan used free electricity amounting to 127 per cent. of the energy for which he was charged. The average rural customer used free electricity amounting to 159 per cent. of his billed consumption, and the average commercial customer used free electricity equal to 36 per cent. of the energy for which he was billed. 3861

If these amounts of free electricity had been billed to the customers at regular rates, the total revenue for the six months in 1935, from the service which was rendered free, would have been $850,427.00, which would be at an average of $12.34 per participating customer.

3862 *Edward H. Schmidtman—By Respondents—Direct*

Q. What effect, if any, has the operation of the plan had on the consumption of electricity in periods subsequent to the operation of the plan? A. It has had a material effect in increasing the consumption of the customers in those classes to which the free service was available.

During the period in which the free electricity plan was effective, a marked increase in the sales of electric ranges and electric water heaters was observed.

During the months of April, May and June of 1933, which
3863 was the year prior to the offering of the free electricity plan, Wisconsin Electric Power Company sold 139—no, not Wis-
—1,750—
consin Electric Power Company—there were sold in the territory of the Wisconsin Electric Power Company, 139 electric ranges.

During the months of April, May and June of 1934, when the free electricity plan was introduced, the range sales totaled 349, and during the same months of 1935, 544 ranges were sold.

In 1933, during those months of April, May and June, 57
3864 water heaters were sold. In 1934, that number was increased to 206. In 1935, it dropped off slightly to 186, but was still substantially above the figure prior to the offering of the free electricity plan.

In the period from April to October, inclusive, in 1934, that is, covering the entire period of the plan in the year 1935—in 1934, there were sold 665 ranges and in 1935, 944.

In 1934, there were sold 369 water heaters, and in 1935, this was increased to 491.

We feel that the free electricity plan was a major factor in accomplishing this increased sale of these major electrical

appliances, and the operation of the plan can be seen in that while these appliances were sold to customers who were taking advantage of the free electricity plan, they are continued in operation down through to the present time and will continue to be an effective factor in holding up the sale of electricity to these classes of service.

The consumption of the customers was also materially in-

creased during the period of the free electricity plan. In 3866
1933, the average consumption per residential consumer of Wisconsin Electric Power Company was 637 kilowatt hours.

In 1934, that had increased to 707. In 1935, that had further increased to 816 kilowatt hours.

Q. Is that entirely revenue consumption or does it include kilowatt hours taken under the free electricity plan? A. It includes kilowatt hours taken under the free electricity plan. It represents total sales to customers of that class. In the case of rural customers, a similar increase in consumption took place during the free electricity plan.

In 1933, the average consumption per rural customer 3867
was 1,146 kilowatt hours. In 1934, that had increased to 1,311 kilowatt hours; and in 1935, it had further increased to 1,671 kilowatt hours.

Q. Now, without going into detail, would you indicate very briefly whether the net effect of the plan is an increase in revenues? A. Yes, the net effect of the plan was an increase in revenues to the company, in an immediate sense. That is, during the period in which the plan was effective, it resulted in increased net revenues to the company. It has been estimated that the increased revenues received by Wis-

3868 *Edward H. Schmidtman—By Respondents—Direct*

consin Electric Power Company during the period of free electricity in 1934, exceeded the increased costs of conducting the plan by $34,000.00 and that during the six months in

—1,752—

which the plan was effective in 1935, the revenue exceeded the increased costs by $53,000.

Now, these are only the immediate effects of the plan and are in no sense a complete measure of the over-all results achieved by offering this plan to our customers because, as I
3869 have pointed out, the habits of the customers have been changed. They are acquiring more appliances and both of those factors continue to result in higher consumption than was realized in the period prior to the offering of this plan.

Q. When did the plan end? A. The free electricity plan was discontinued in October, 1935.

Q. And was another plan substituted for it? A. Yes, it was.

Q. What is that plan? A. At that time, at the beginning of November, 1935, the Wisconsin Electric Power Company offered a promotional plan which was a substitute for the free
3870 electricity plan.

This new promotional plan is known as the ten-for-one plan.

Q. That plan is still in operation? A. Yes, it is still in operation, today.

Q. Will you explain how it operates? A. The ten-for-one plan permits eligible customers to double their consumption of electricity in any calendar month, or rather any service

—1,753—

month, of a given year as compared with their consumption in that same month the previous year for an increase of

not more than 10 per cent. in the electric service bill.

To illustrate, if a customer used 100 kilowatt hours in the month of August, 1939, and paid for it at the standard rates, he would be permitted under this plan to use up to 200 kilowatt hours in August of 1940 at an increase of not more than 10 per cent. over the bill he paid for his service in August of 1939.

If a customer increases his consumption to more than twice the consumption of the corresponding month a year ago, he is billed for that excess over the 100 per cent increase 3872
at a net rate of 2 cents per kilowatt hour.

Another provision of the plan is that under no circumstances shall the charge for electric service to a customer under the ten-for-1 plan exceed what the charge would be at the regular rates presently in effect, nor shall it be any less than one cent net per kilowatt hour.

The ten-for-one plan is offered to residential, rural and commercial lighting, large users secondary, and municipal secondary customers.

It has received remarkably wide acceptance on the part of the customers and is still in effect. 3873

Mr. Hamilton: May this table be marked for identification as Respondents' Exhibit No. 39?

The Examiner: Yes. —1,754—

(The table referred to was marked for identification as Respondents' Exhibit No. 39.)

By Mr. Hamilton:

Q. Mr. Schmidtman, will you explain what Respondents' Exhibit No. 39 for identification purports to portray? A.

3874 *Edward H. Schmidtman—By Respondents—Direct*

Respondents' Exhibit 39 is a tabulation showing the amounts saved by the customers of Wisconsin Electric Power Company through the operation of the ten-for-one plan during the years 1935 to June 30, 1940.

Q. And for what period in 1935? A. For the period in 1935 during which the plan was effective, namely November 1, to December 31.

Q. Will you explain the basis on which savings are shown? A. The savings shown in Exhibit 39 were com-
3875 puted from the bills rendered to the customers. Under the operation of this plan, a participating customer receives an electric service bill which shows his meter reading, and the consumption, and then the bill for that consumption, at regular rates, is shown.

In an adjoining column, the bill to be paid by the customer under the ten-for-one plan is shown.

By tabulating the two amounts shown by the bills of the participating customers, we have computed the differences between those figures for all customers availing themselves
3876 —1,755—
of this plan in respective years shown in Exhibit 39.

The figures indicated are the totals derived in that manner.

Q. The exhibit purports to show, does it not, classifications such as residential, rural, commercial, large users and municipal secondary? A. Yes, it does, with the savings segregated according to those classes of service.

Q. And has this table been prepared under your supervision? A. Yes, it has.

3877

Q. And the facts shown taken from the record of the Wisconsin Electric Power? A. They were.

Mr. Hamilton: I offer the table in evidence as Respondents' Exhibit No. 39.

Miss Calkins: No objection.

The Examiner: It is so admitted.

(The table referred to was received in evidence as Respondents' Exhibit No. 39.)

3878

By Mr. Hamilton:

Q. In order to clarify the exhibit, Mr. Schmidtman, would you state the total savings for the period indicated to all classes of customers shown on the exhibit? A. The total

savings experienced by customers participating under the ten-for-one plan, from the date of its beginning up to June 30, 1940, was $4,687,214.62.

Q. And the total savings to residential customers? A. Residential customers realized a total saving of $2,934,641.30.

3879

Q. I note from the table that for the six months ended June 30, 1940, your total amount of savings shown indicates a slight increase in rate of saving over the year 1939. Is that right? A. Did you say a decrease?

Q. An increase. A. Yes, the saving during the first half of 1940 exceeds half the saving for the year 1939.

The ten-for-one plan continues to be extremely popular with our customers, and while it is not to be assumed that the operating results for the first half of the year should be exactly half of the results for the entire year, the continued

popularity of the plan leads us to believe that the savings for 1940 will be of the same order of magnitude as those shown for the preceding three years.

Q. For what period is the plan intended to remain in operation? A. The ten-for-one plan was originally introduced on an experimental basis. It was necessary before offering it to our customers, to submit it to the Public Service Com-

—1,757—

mission of Wisconsin for approval.

3881 After the Commission had become convinced that it was a sound promotional plan, authority to introduce it on an experimental basis was given. It has been extended from time to time by approximately six-months periods, and the latest extension by authority of the Public Service Commission covered a period up to July, 1941.

Whether it will be extended beyond that time no one can say. It will have to be again submitted to the Public Service Commission for analysis by their rate and research division, and if the Commission approves, authority will be granted to extend it farther into the future.

3882 The reason that the plan was introduced experimentally is that it was new and we had no experience on what might be expected from it and so it was approached on that basis. After its promotional nature had been fully demonstrated, however, the Public Service Commission was less hesitant about approving it, and, as I say, it has now been approved to remain in effect up to July of next year.

There are some rather interesting aspects of this plan, one of which can best be illustrated by an example. If a customer consumed 100 kilowatt hours in any month last

year and paid for that consumption at the regular rates for residential electric service, his bill would have amounted to $3.35 net.

—1,758—

Now, if that customer had availed himself of the ten-for-one plan during the corresponding month of this year, he would be permitted to use 200 kilowatt hours for a charge not in excess of 10 per cent. more than $3.35, or a charge of $3.69. He would receive the additional 100 kilowatt hours for an additional charge of 34 cents, or he would pay 34/100 of a cent per kilowatt hour for his increased service. 3884

Now, it isn't to be expected that a customer will continue doubling his consumption year after year. The economic status of a residential customer places some limitation, some saturation point, if you please, on the amount of electricity that a person in his circumstances can use, even though it comes to him at an extremely low rate, so if the customer we are taking as an example should not continue to increase his consumption above the 200 kilowatt hour point, but should continue using 200 kilowatt hours in the corresponding month, year after year, at the end of five years his bill, which would have been increasing at the rate of 10 per cent, 3885 each year under the ten-for-one plan, would be within two cents of exactly what his bill would be for 200 kilowatt hours at the regular rate.

During the five-year period, the customer will have had the use of 200 kilowatt hours each month for amounts ranging from $3.35, which is the standard bill for 100 kilowatt hours, up to $5.35, which is just two cents less than the standard bill for 200 kilowatt hours per month.

—1,759—

3886 *Edward H. Schmidtman—By Respondents—Direct*

During that period, for that same calendar month each year, accumulatively, he would have realized a saving of $4.28. He would have developed consumption habits resulting in the consumption of 200 kilowatt hours per month, and would have received service during that period at premium rates.

Q. Have the operations of the promotional rate plans resulted in an increased use of electrical energy by customers of the company? A. They have. They have resulted
3887 in substantially increased use on the part of our residential customers. The fact that this is true is shown by the shifting of our residential customers from the low consumption brackets to the high consumption brackets.

In 1937, it was decided that analyses should be made to ascertain whether the promotional rate plans were resulting in increased consumption habits on the part of residential customers. As a result of that decision, a complete consumer analysis of the residential customers of the Wisconsin Electric Power Company was made and the customers were classified according to the consumption brackets in which
3888 they fell.

The first of these analyses was made in April of 1937, when it was found that 50 per cent. of the residential consumers of Wisconsin Electric Power Company used 50 kilowatt hours or less per month; 34 per cent. used between 52 kilowatt hours and 100 kilowatt hours per month; 9 per

cent. consumed from 102 kilowatt hours to 150 kilowatt hours per month; 3 per cent. consumed from 152 kilowatt hours to 200 kilowatt hours per month; and 4 per cent. consumed more than 200 kilowatt hours per month.

These consumptions are all per customer. These consumer analyses were repeated, being made in October and again in April and October of each succeeding year.

The latest one available was that made in April of 1940. At that time, it was found that the customers consuming 50 kilowatt hours or less per month per customer had dropped from 50 per cent. to 34 per cent., and those consuming from 52 to 100 kilowatt hours per month had increased from 34 to 40 per cent.; those consuming from 102 to 150 kilowatt hours per month had increased from 9 to 15 per cent.; those 3890
consuming from 152 to 200 kilowatt hours per month had increased from 3 to 5 per cent.; and those consuming more than 200 kilowatt hours per month had increased from 4 to 6 per cent. of the residential consumers of the company.

This shifting of customers from the low-consumption brackets to the higher consumption brackets is regarded as an extremely important accomplishment because customers who use very small amounts of electricity don't make the use of it which really benefits them. They use it only for necessity purposes and get very little comfort or convenience from it, and likewise, customers in the minimum consumption 3891

brackets do not actually pay all the costs of service.

So from the viewpoint of both the customers and the company, we feel that the migration, if you please, of customers from the lower consumption groups to the higher consumption groups is an achievement of some importance.

Mr. Hamilton: May this chart be marked for identification as Respondents' Exhibit No. 40?

3892 *Edward H. Schmidtman—By Respondents—Direct*

(The chart referred to was marked for identification as Respondents' Exhibit No. 40.)

By Mr. Hamilton:

Q. Mr. Schmidtman, will you explain what Respondents' Exhibit No. 40 for identification portrays? A. Respondents' Exhibit 40 is a blueprint chart showing in graphic form the trend of average annual consumption of residence electricity on the system of Wisconsin Electric Power Company and in
3893 the United States as a whole.

Q. Will you indicate the period shown? A. The period covered by the curve for Wisconsin Electric Power Company extends from the year 1910 to the year 1939.

The period covered by data for the United States begins with the year 1913 and carries through to 1939.

Q. Has this chart been prepared under your supervision? A. Yes, it has.

—1,762—

Q. And the facts shown as to Wisconsin Electric Power Company taken from the records of that company? A. They
3894 were, and the data for the average of the United States were taken from the published statistical reports of the Edison Electric Institute.

Mr. Hamilton: I offer the chart in evidence as Respondents' Exhibit No. 40.

Miss Calkins: No objection.

The Examiner: It is admitted in evidence under that number.

(The chart referred to was received in evidence as Respondents' Exhibit No. 40.)

By Mr. Hamilton:

Q. Will you state from Exhibit No. 40, the range shown by the two curves? A. The curve for Wisconsin Electric Power Company shows that in 1910 the average annual consumption of electricity per residential customer was about 210 kilowatt hours, and that in 1939 it had increased to 1,960 kilowatt hours.

The curve showing the average for the United States indicates that in 1913 the average annual consumption per 3896
residential consumer was about 260 kilowatt hours per customer, and in 1939 it was 890 kilowatt hours per customer.

Q. And since what year has the average consumption of Wisconsin Electric Power Company, residential consumers, exceeded the average consumption of the United States? A.

—1,763—

Beginning in the year 1915, the average consumption per residential customer of the Wisconsin Electric Power Company has been above the average for United States.

Q. Continuously? A. Continuously. Prior to 1915, the average for the United States was above that of the Wis- 3897
consin Electric Power Company for the two years shown. I do not have data for the earlier years and so I don't know whether that curve would remain above that of Wisconsin Electric Power Company for the years prior to that or not.

Q. Exhibit No. 40 does not present data as to the operations of the Wisconsin Michigan Power Company and the Wisconsin Gas & Electric Company. Can you give comparable data for those last two named companies? A. Yes. As I explained before, in connection with the average price for residential electricity of Wisconsin Gas & Electric Com-

3898 *Edward H. Schmidtman—By Respondents—Direct*

pany and Wisconsin Michigan Power Company, the residential classification of service has not been segregated until recently, and so we could not plot the data for those companies over the periods shown in Exhibit 40.

For the year 1939, however, the average consumption per residential consumer on the system of Wisconsin Gas & Electric Company was 904 kilowatt hours. For Wisconsin Michigan Power Company, the average residential consumption in 1939 was 932 kilowatt hours.

3899 —1,764—

Both of these figures exceed the average for the United States in 1939.

Q. Have the companies in the Wisconsin-Michigan group carried on active programs directed toward rural electrification? A. Yes, they have. The activity directed toward the sale of electricity to farmers began as far back as 1916 in the territory of our three companies.

On January 1 of that year, Wisconsin Electric Power Company filed its first rural electric service rate schedule with the then Wisconsin Railroad Commission. In filing
3900 its rate for that class of service at that time, the company was far ahead of most electric utility systems in the country, and likewise far ahead of the growing national prominence that has attached itself to rural electrification in recent years.

At that time, the sale of electricity to farms was an entirely new field of electric service. Because of that fact, it was necessary to approach the class of service on a somewhat experimental basis.

In laying out its program for electrifying its rural territory, the company has as its object, the complete electri-

fication of its territory rather than the realization of immediate earnings on the service extended at the time. After a few years of rather careful probing of the field, it was

—1,765—

found that rural service had real possibilities as a means of selling electricity, and the Wisconsin Electric Power Company organized the beginning of its present rural sales division in 1925.

The division was organized of men familiar with fine problems and there were developed in that the plans for 3902 financing farmers' installation and a plan under which line extensions, would be made to farmers applying for service and a rather active campaign was instituted.

The Wisconsin Gas and Electric Co. and Wisconsin Michigan Power have always been in the rural electrification field a number of years, although they had not entered it at the time the Wisconsin Electric Power Co. filed its initial rate schedule in 1916.

They have since carried a law with their rural electrification promotion campaign and have accomplished a high degree electrification of their rural territories. 3903

Q. What are the policies of the companies in the Wisconsin-Michigan group with respect to line extensions in rural territory? A. All three companies of the Wisconsin-Michigan group have at present the same rural line extension policy. The original rules filed by Wisconsin Electric Power Co. provided that the company would expend in constructing new line extensions required in servicing customers an amount not in excess of the estimated revenue for the first

—1,766—

two years of operation of the proposed extension. Any excess in the cost of the line extension over the estimated two years revenue was paid by the customers applying for the service.

In 1924, this rule was amended to provide for the expenditure of three years' estimated revenue, with the customers contributing the excess of cost over that amount.

The rule also provided that if additional customers were connected to the line within the first three-year period, that
3905 one-half of the revenue received from those customers would be refunded to the farmers making the original contribution if it amounted to more than one-third of the cost of connecting such additional customers.

If the customers chose to guarantee a minimum revenue equal to not less than one-third of the cost of the line extension, then the company did not require them to make any contribution in aid of that construction.

In 1924, the rules also provided for the financing of farmers' wiring in their buildings, and the financing of their equipment on a monthly instalment plan.

3906 In 1935, the rules were further liberalized in an experimental area in the rural territory of Wisconsin Electric Power Company. They were changed to provide for a contract for three years' service at a minimum charge of $4.00 per month. Under such a contract, the Wisconsin Electric Power Company agreed to install a rural line extension for

any length provided there was not a distance of more than three-quarters of a mile between any two customers on the extension.

If such customers exceeded three-quarters of a mile, the rule provided that the company might, if it chose, refuse to extend the service.

Now, these rules were filed and approved by the Public Service Commission of Wisconsin. The rules adopted in 1935 by the Wisconsin Electric Power Company are still in effect and have been extended to cover the rural service of both Wisconsin Gas & Electric Company and Wisconsin Michigan Power Company.

Q. Are the rural rates of the three companies promotional 3908
in character? A. Yes, they are. They have been made that way in keeping with the promotional rate policies of the companies in order to encourage more extensive use of the service by our farm customers.

The rates charged for rural electric service are the same on the system of all three companies of the group. They provide for a minimum monthly charge of $4.00 net which is the $4.00 charge I spoke of in connection with the line extension policy.

This minimum charge carries with it the right of the cus- 3909
tomer to consume eighty kilowatt hours of energy, resulting in a net charge for that first step of eighty kilowatt hours of 5 cents per kilowatt hour. —1,768—

The next 420 kilowatt hours per month are billed at 2½ cents per kilowatt hour, and the excess over 500 kilowatt hours per month is billed at 2 cents per kilowatt hour.

The rate also provides for a charge based on the motor installation of the farmers, specifying that for installations of more than 7½ horsepower, the minimum bill of $4.00 is increased by 50 cents a month per horsepower.

3910 *Edward H. Schmidtman—By Respondents—Direct*

Q. Have the companies conducted experiments toward increased rural consumption? A. Yes, they have. A rural electrification project was participated in by Wisconsin Electric Power Company with the cooperation of the Wisconsin Utilities Association, and the University of Wisconsin, in 1927.

The purpose of this project was to develop new and beneficial uses of electricity on the farm.

In carrying out the project, two test farms in the terri-
3911 tory of Wisconsin Electric Power Company were established and were completely wired and equipped with various types of electrical farm equipment.

The tests were conducted under the direction of the university for the purpose of determining the efficiency of the various items of equipment then available for the use of farmers and the cost of operating such equipment and the value of the results of such use. —1,769—

Two general classes of equipment were tested, the first one consisting of household equipment, including refrigera-
3912 tors, water heaters, laundry and cleaning equipment, water systems, and sanitary equipment requiring running water pumped with electric pumps.

The second class consisted of general farm equipment including milking machines, cream separators, feed grinders, incubators, silage cutters, elevators, wood saws, and other general machines for the application of electricity to the farm.

These experiments demonstrated the various ways in which such equipment could be applied to the needs of farmers and many of the items of equipment tested on those

test farms in 1927 are now considered standard equipment among the farmers served in the territories of our companies.

In 1938 another test having to do with rural electrification was conducted by the rural sales division of Wisconsin Electric Power Company. This test consisted of a load survey and metering test on a certain rural distribution line in the company's territory.

The test covered the years '37 and '38, and was conducted on a line eighteen miles long serving fifty-six farms. From those figures, it is evident that the density of customers in 3914 that particular area was not particularly high.

The outstanding fact discovered as a result of these tests, was that during the period of tests the connected load served

—1,770—

by the line, that is the capacity of the equipment connected to the line, increased 24 per cent.. The consumption of electricity on the line increased 32 per cent., while the maximum demand imposed on the line increased by less than 6 per cent.

These results indicate the diversity of demand which can exist and which in this case did exist, naturally, between the various power consuming devices used on farms, and shows 3915 the possibility of building the rural load to profitable levels without making excessive investment in transmission and distribution facilities.

The companies have also carried out extensive tests on the use of electricity for heating the soil in seed beds, and for ultra-violet irradiation of poultry and cattle. Five soil-heating test installations were made to determine the efficiency of equipment available to the market for that use, and the results of these tests indicated that certain brands of such equipment had very practical value to farms and

green houses and others who were interested in getting an early starting of seedlings.

With respect to ultra-violet irradiation of poultry and cattle, Wisconsin Electric Power Company actually pioneered that application of electricity to farm production.

In Wisconsin, the summers are shorter than in other parts of the country and a very large part of the summers are cloudy so that there is inadequate sunshine to give the animals as much of the sunshine vitamin as they need.

3917 —1,771—

Test flocks of chickens were subjected to ultra-violet irradiation and after careful test, it was found that the average increase in number and weight of eggs laid ran close to 20 per cent. for the flocks which received irradiation in comparison with those which did not.

Ultra-violet irradiation is also valuable for use on herds of cattle in that it improves the quality of the milk and reduces the bacterial count in the milk. It also reduces the susceptibility of the cattle to various diseases and has resulted in improved health and growth of calves.

3918 In connection with the application of ultra-violet irradiation on farms, Wisconsin Electric Power Company employed a veterinarian in 1935 and still has him in its employ. To our knowledge it was the first electric utility in the country to employ a veterinarian full time to serve as adviser to farm customers of the company.

This doctor is skilled in poultry and livestock ailments and he assists farmers in the selection, installation and use of ultra-violet equipment. Through his work, the company feels it has received considerable benefit in the way of in-

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creased revenue from the customers and increased goodwill among the farmers that we serve.

We now have over 600 installations of ultra-violet or sun lamps in the company's territory.

—1,772—

Q. This is on farms, is it? A. This is on farms, yes. They are using more than a thousand lamps.

Q. Are the results of the experiments conducted by Wisconsin Electric Power Company made available to the Wisconsin Gas & Electric Company, and Wisconsin Michigan 3920
Power Company? A. Yes, they are. Those results are made available to the other companies and where the data involved are applicable to the use of those companies, they actually employ the results of those tests in serving their own customers.

Q. Do Wisconsin Gas & Electric Company and Wisconsin Michigan Power Company have the same facilities for conducting these experiments? A. No, they do not. These experiments are conducted very largely on the system of the Wisconsin Electric Power Company because the company has led the way in rural electrification in the group, 3921
and for that reason the results of these tests and the knowledge that is gained are made available to the other companies so they won't have to duplicate the effort and spend money doing the same thing that has been done by Wisconsin Electric Power Company.

Q. Has the effect of this program been the increased use of electricity on the farm? A. Yes, it has. The consumption of electricity by our farm customers has grown appre-

—1,773—

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ciably and we feel it is largely because of the liberal line extension policy, the promotional rates and the general promotional activity carried on by the companies among their farm customers.

Q. Does Wisconsin Electric Power Company conduct programs designed to increase the use of running water on farms? A. Yes, it does. Each year Wisconsin Electric Power Company carries out a program intended to bring to the attention of our farm customers the application of electricity

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to at least one specific use on the farm.

The theme of this year's rural sales activity is "Running Water on the Farm". The application to electric service is through the medium of an electric pump delivering water for a pressure system. It has been found, again by means of extensive tests, that hogs will weigh more, cows will give up to 10 per cent. more milk, and chickens will lay more and larger eggs if they have all the water they want when they want it.

The first step in the running water promotional program of the company is the showing in farm homes and at various gatherings of a sound-slide film entitled "Running Water on

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the Farm."

This film is presented by a representative of the company who does not attempt to sell any equipment at all. She simply gives the film and the lecture connected with it as a means of arousing interest among the farm population in running water.

—1,774—

The selling of the equipment and the installation of the water systems are done entirely by dealers in the territory who are in those lines of business.

The company does finance the installment accounts, however, for the farmers' installations of wiring and installation of water systems, including the motor, and the pump and the piping.

Last year, Wisconsin Electric Power Company handled accounts amounting to more than $10,000.00.

Q. Those are single accounts, are they? That is not an aggregate figure, is it? A. That is an aggregate figure. The total amount of all accounts handled was over $10,000.00, covering electrical water systems installed in the rural ter- 3926
ritory.

In continuing its running water theme for this year, the Wisconsin Electric Power Company concentrated on that one aspect of rural electrification in its exhibit at the Wisconsin State Fair in Milwaukee.

The exhibit showed various appliances using running water and it was visited by hundreds of people from all over the state and some from outside the state.

Q. Now, have you data as to the number of farms served in the territories of the three companies? A. The three com-
panies, through their rural electrification policies, have ac- 3927
complished a high degree of electrification of their rural territories.

—1,775—

In the rural territory served by Wisconsin Electric Power Company, there are located 3,996 farms.

Q. Will you state the test which is the basis for the definition of a farm used in your testimony? A. We define a farm as an establishment from which the principal revenue is received from agricultural pursuits. There are many farms in our territory which have more than one family.

3928 *Edward H. Schmidtman—By Respondents—Direct*

In such cases, the family which operates the farm as its principal means of income is classified as the farm home, or as the farm family, and the other family or the other residence is considered simply a residence, and if it takes electric service it receives that service at the standard residential rate.

The rural rate is extended only to the operation of the farm, itself, and to the family which operates that farm.

Now, as I said, there are 3,996 farms in the rural terri-
3929 tory served by Wisconsin Electric Power Company. At the end of June, 1940, 3,634 of these farms were taking electric service from Wisconsin Electric Power Company. The number taking service constituted nearly 91 per cent. of the total farms in the territory of the company.

At the same time service was available to 3,840 farms, or slightly over 96 per cent. of the total farms in the territory. Wisconsin Electric Power Company operates 1,090 miles of rural distribution line which averages 3.6 customers per

—1,776—

mile.

3930 In the territory of Wisconsin Gas & Electric Company, there are 17,818 farms. Of these, 13,550, or slightly over 76 per cent., are now being served by Wisconsin Gas & Electric Company.

Service is available to a total of 16,690 of these farms or nearly 94 per cent. of the total number in the territory. Wisconsin Gas & Electric Company operates 4,279 miles of rural distribution line, on which the average customer density is 3.2 per mile.

There are 9,571 farms located in the rural territory of Wisconsin Michigan Power Company, in both Wisconsin and

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Michigan. On June 30, 1940, that company was serving 6,579 of those farms, which represents 68.6 per cent. of the total farms in the territory.

At that time service was available to 8,087 farms or 84½ per cent. of all farms in the territory. Wisconsin Michigan Power Company operates 1,897 miles of rural distribution line in Wisconsin and 572 miles of such line in Michigan and has an average rural customer density of 2.8 customers per mile in Wisconsin, 2.3 per mile in Michigan, or an average of 2.6 in all territory served. 3932

Now, by comparison with the average degree of rural electrification in the State of Wisconsin as a whole, those companies range high. According to data published by the Edison Electric Institute, 42.1 per cent. of the farms in Wis-

consin were receiving electric service at the end of 1939.

All three of the companies of the Wisconsin-Michigan group are substantially above that average, Wisconsin Electric Power Company having an electrification of more than twice the percentage indicated for the state as a whole.

Q. Have you data as to the consumption, average consumption, by rural customers in the territory? A. The average consumption of all rural electric customers of the three companies of the Wisconsin-Michigan group, was 1,367 kilowatt hours in 1939. 3933

According to Edison Electric Institute data, the average consumption for rural customers east of the one-hundredth meridian, which generally divides the portion of the United States in which irrigation is practiced, from that in which little or no irrigation is practiced, was 1,127 kilowatt hours per customer. The average for the three companies of the

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Wisconsin-Michigan group exceeds the average for that portion of the United States east of the one-hundredth meridian by 21 per cent.

The average cost of service to customers of the Wisconsin-Michigan group was 4.1 cents per kilowatt hour which was 7 per cent. below the average cost of service of 4.41 cents per kilowatt hour in that portion of the United States east of the one-hundredth meridian.

In 1939, Wisconsin Electric Power Company's rural cus-
3935 tomers consumed an average of 2,229 kilowatt hours per cus-
—1,778—
tomer, and for that service they paid an average price of 3.02 cents per kilowatt hour. This average consumption is 87 per cent. above the average for the non-irrigated portion of the United States, and the average price for service in the non-irrigated section of the United States is 36 per cent. above the average price charged the rural customers of Wisconsin Electric Power Company.

Q. When you refer to the territory of the United States east of the one-hundredth meridian, you have referred, have
3936 you not, to the territory in which little or no irrigation is practiced? A. Yes, that is what I meant.

The Examiner: We have come through to this hour of 1:30 without substantial interruption and as this room is to be used this afternoon by a hearing before the Commissioners, we will recess until tomorrow morning at 10:00 o'clock.

(Whereupon, at 1:35 o'clock p.m., the hearing was adjourned until 10:00 o'clock a. m., Tuesday, September 24, 1940.)

—1,779—

3937

BEFORE THE

Securities and Exchange Commission

Docket No. 59-10

IN THE MATTER

of

THE NORTH AMERICAN COMPANY, *et al.* 3938

Hearing Room 609,
Securities and Exchange Commission Building,
Washington, D. C.,
Tuesday, September 24, 1940.

Met, pursuant to adjournment, at 10:00 o'clock a. m.

Before: W. W. SWIFT, *Trial Examiner.* 3939

Appearances:

S. PEARCE BROWNING, JR., and CHARLES S. HAMILTON, JR., of Sullivan & Cromwell, 48 Wall Street, New York City, Attorneys for the Respondents.

RALPH C. BINFORD, and

MISS E. H. CALKINS, Attorneys for the Securities and Exchange Commission.

3940 *Edward H. Schmidtman – By Respondents—Direct*

PROCEEDINGS

The Examiner: The hearing will be resumed.

Whereupon, EDWARD H. SCHMIDTMAN resumed the stand and testified further as follows:

Direct Examination by Mr. Hamilton (Continued):

Q. Mr. Schmidtman, are Wisconsin Electric Power Company, Wisconsin Gas & Electric Company, and the Wisconsin
3941 Michigan Company all subject to the regulation of the Public Service Commission of Wisconsin? A. Yes, they are.

Q. And in addition, is Milwaukee Electric Railway and Transport Company, the transportation subsidiary of Wisconsin Electric Power Company, also subject to the jurisdiction of that Commission? A. It is.

Q. And in addition, is Wisconsin Michigan Power Company subject to the jurisdiction of the Michigan Public Utilities Commission? A. It is with respect to its operations in the State of Michigan.

Q. A previous witness has testified as to what the Wis
3942 consin Commission does with respect to regulation of public utilities and has indicated its powers in that respect. Would

you now state what the companies, themselves, do pursuant to that regulation? A. With respect to the companies' operations, the companies of the Wisconsin group do a number of things in connection with the regulation to which they are subject.

In the establishment of rate schedules for all classes of service, the companies file with the Public Service Commission of Wisconsin and in the case of the Wisconsin Michigan

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Power Company rates for service in the State of Michigan are also filed.

These rates must be submitted for approval of the regulatory bodies and that approval obtained before the rates can be made effective.

Q. And they are so submitted? A. And they are submitted and such approval is obtained.

Wisconsin Electric Power Company, now, has in effect thirty-nine electric service rate schedules and forty-five special agreements covering special contracts with other electric utilities and with certain special customers and with municipalities for street lighting service. All of these rate schedules and special agreements have been submitted to the Public Service Commission of Wisconsin and the approval of that body has been obtained.

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Wisconsin Gas & Electric Company has twenty-four electric service rate schedules and seven gas rate schedules, as well as a total of seventy-six special service agreements and

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street lighting agreements.

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These have also all been submitted to and approved by the Public Service Commission of Wisconsin.

Wisconsin Michigan Power Company has nineteen electric service rates and four gas service rates in Wisconsin, as well as forty-nine special agreements and street lighting agreements. These have been submitted to the Public Service Commission of Wisconsin and approved by that body.

Wisconsin Michigan Power Company also has fourteen electric service rates in Michigan and forty-four special agreements and street lighting agreements.

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These rate schedules and agreements have all been approved by the Michigan Public Utilities Commission.

I testified yesterday as to the number of rate reductions that have been made by the companies of the Wisconsin-Michigan group in very recent years, amounting to a total of 229 electric service rate reductions.

Q. In the case of the three companies? A. In the case of the three companies, yes. These reductions were all approved by the regulatory bodies under whose jurisdiction
3947 they come before being made effective. The rendering of service by the three companies of the Wisconsin-Michigan group is also done under rules which are filed with the regulatory bodies and approved by those bodies before being made

—1,783—

effective.

At the present time——

Q. (Interposing) Now, in order to clarify your statement, I wish you would indicate that when you refer to regulatory bod'es, you are referring to the state commissions to which the companies are subject. A. Yes. That is what I
3948 mean by the respective regulatory bodies; that is, the Wisconsin Public Service Commission for operations in Wisconsin and the Michigan Public Utilities Commission for operations in Michigan.

At the present time there is now in negotiation between the Public Service Commission of Wisconsin and the electric utility companies operating in Wisconsin a set of rules governing the rendering of service by those utility systems.

The Public Service Commission formulated these rules upon its own motion as a proposed substitute for the rules

presently in effect. The list formulated by the Commission included seventy-four rules.

The electric utilities in the State were represented at a hearing at which these proposed rules were discussed and the utilities subsequently submitted a list of forty-two rules which they offered as a substitute for the seventy-four proposed by the Public Service Commission.

Another hearing was held and the matter is now being considered by the Commission's staff and it is expected that an order ordering certain of these rules to become effective 3950

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will be issued by the Commission.

Q. Will you describe the general nature of these rules? A. Yes, these rules cover three general subjects concerning the rendering of electric service.

The first group is in the furnishing of service, itself, and includes rules covering such topics as service requirements, the filing of information with the Public Service Commission of Wisconsin, the non-discriminatory application of rates, the obligation of the utilities systems to furnish service, requirements pertaining to tamper-resistant equipment, billing 3951 periods, standard utilization equipment, changes in type of service, and a number of others of a similar nature.

Altogether there are twenty-one rules concerning the furnishing of service.

The second classification of rules covers the operation of a utility plant. There are twenty-three rules in this group. When I give the number of rules, I am referring to the number contained in the list proposed by the Public Service Commission. In this second class are rules concerning the ade-

3952 *Edward H. Schmidtman—By Respondents—Direct*

quacy of plant, that is generation, transmission and distribution facilities, the periodic inspection of structures and equipment, service interruptions, voltage regulation, electrolysis and tree trimming.

The third group of rules contain a total of thirty rules —1,785— covering metering, tests, and meter accuracies. Among these rules are some covering the measurement of customer service, the type of instruments to be used, the location of meters, 3953 types of testing equipment, the checking of test standards by the Public Service Commission of Wisconsin, the accuracy requirements of meters, test procedures, and numerous others of a similar nature.

Upon complaint by customers concerning quality of service or rates or any other matter having to do with the rendering of service to the public, the companies must answer all inquiries made by the Public Service Commission and if hearings are ordered, they prepare material and exhibits and have witnesses at those hearings to represent the companies in the matters brought up.

3954 These matters may be brought up on complaint of customers or they may be brought up at the request of the companies, or upon motion of the Commission, itself.

In any event, the companies make appearances and represent their interests at such hearings or conferences which may result from instances of this kind. In certain cases, where construction is contemplated or changes in the operation of the electrical system that is proposed, the companies must make application and do make application to the Commission, the Wisconsin Michigan if it is in Wisconsin, or if

it is in Michigan, to that state commission, for authority to

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make the contemplated installation.

Among the instances in which such certificate must be obtained, are cases in which the construction or operation of the electric and gas service in any incorporated city or village, not previously served by the utility, is contemplated. That is, an extension of service into any territory not previously served may not be made without specific approval of the Commission. 3956

Q. And you do make application for such approval? A. We do make application and we do obtain such approval before making such extensions of service.

In case an addition to an electric generating station or gas manufacturing plant is contemplated, or the replacement or change of any of its equipment, the companies apply to the Public Service Commission for a certificate of authority to make such changes.

Before constructing any new transmission line, which will interconnect two sections of the system not previously interconnected, or which will bring into the system a new 3957 source of power or will materially change the power supply to any principal load center within the system, or which involves gross property additions in excess of 2 per cent. of the previous year's gross electric operating revenue, the companies apply to the Public Service Commission for certificate of authority to make such construction and the certificate must be obtained before the construction may be made.

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If the companies should desire to construct or enlarge any major sub-station which would effect the changes I have

just enumerated above in its electrical system, they also apply to the Public Service Commission for certificate of authority before making such construction.

Before constructing a building, or making other property additions in excess of 2 per cent. of the previous year's gross electric operating revenue, a certificate of authority is applied for and obtained.

Q. In the case of gas service, do you similarly make application for certificates of authority? A. Yes, we do. The
3959 rules apply to gas operations as well as to electric.

Under certain conditions the extension of relatively short lengths of line, sometimes less than a mile in length, will accomplish one of these changes which I have enumerated, making it necessary for the companies to obtain permission of the Public Service Commission before construction of such sections of line.

An instance of that would be where a line would be extended into a community or area not previously served.

Q. All these instances which you have given are related to regulation by the Wisconsin Commission? A. Yes, they
3960 are. Another respect in which the companies comply with

regulatory authority, is in connection with the execution of contracts and agreements between affiliated interests. In compliance with the Public Service Commission of Wisconsin's order 2-U-2, issued in June of 1931, all contracts of Wisconsin utilities between affiliated interests must be filed with the Public Service Commission and the approval of that body obtained.

Q. And you do make such filing? A. We do make such filing and we do obtain such approval.

Q. Will you illustrate generally the nature of the type of arrangement covered by that rule? A. An example of this type of contract is the agreement that was entered into between Wisconsin Electric Power Company and its transportation subsidiary, The Milwaukee Electric Railway and Transport Company.

In October, 1938, the Milwaukee Electric Railway and Light Company, which was the predecessor in name of the Wisconsin Electric Power Company, separated its transportation operations from its electric operations. 3962

The transportation operations were organized under The Milwaukee Electric Railway and Transport Company as a wholly owned subsidiary of Wisconsin Electric Power Company which now conducts the electric operations.

In separating the transportation from the electric operations of The Milwaukee Electric Railway and Light Company, it was necessary to make certain arrangements re-

garding the joint use of property which up to that time had been used jointly in both electric and transportation operations. 3963

Inasmuch as the two businesses were thenceforth to be operated by separate companies, a contract was entered into between them covering the joint use of certain facilities. These contracts were submitted to the Public Service Commission for approval.

Before giving approval of the proposed agreements, Wisconsin Public Service Commission sent an auditor to the offices of the companies at Milwaukee to audit the proposed agreements and the facts concerning them. All the property

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figures upon which rentals were computed were checked by the auditor against the property ledger accounts and the determination of the rental rates was also investigated.

The Commission's auditor prepared a complete report on the results of his investigation, copy of which was submitted to the companies for review. After submission of the auditor's report, a conference was held by the representatives of the Commission and of the companies, the purpose of which was to answer any questions which the Commission

3965 wished to ask as a result of the report submitted by the auditor.

As a result of this conference, the Public Service Commission issued an order finding that the proposed arrangements were in the public interest and ordering the Wisconsin Electric Power Company to submit annually a detailed

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schedule of all properties involved in the rental arrangement and of all the elements of cost entering into the furnishing of electric power service to The Milwaukee Electric Railway and Transport Company by Wisconsin Electric Power

3966 Company.

Wisconsin Electric Power Company has subsequently submitted such report to the Public Service Commission as of the end of 1939.

Q. Was part of that arrangement of the power contract entered into between the two companies? A. Yes.

Q. And was this similarly filed with and approved by the Commission? A. Yes, the power contract was considered by the Public Service Commission along with the rental arrangement, and the rate charged for power was examined as care-

fully by the Commission's staff as were the rentals proposed to be charged for the property, at least to the transport company.

Another arrangement in which a contract between affiliated interests was filed with the Public Service Commission and approval of that body obtained before the contract was made effective, arose in the case of the purchase of a piece of electrical equipment by Wisconsin Electric Power Company from the Illinois-Iowa Power Company, an affiliate.

In constructing the 96th Street Sub-station, the Wisconsin Electric Power Company found itself in need of certain 3968

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electrical equipment among which was a 132,000 volt oil circuit breaker.

The company obtained bids on such equipment from the General Electric Company, the Westinghouse Electric Manufacturing Company, and the Condit Company, these bids ranging from about eighteen thousand—well, ranging from $17,800.00 to slightly over $18,000.00.

Before placing an order for this breaker, however, Wisconsin Electric Power Company learned that Illinois-Iowa 3969 Power Company had an oil circuit breaker which would fill the purpose and which it desired to dispose of.

Contact was established with the company and terms of purchase were agreed upon, but before going through with the transaction, Wisconsin Electric Power Company applied to Wisconsin Public Service Commission for authority to enter into the purchase contract and carry out the purchase arrangement.

There were some details that had to be worked out in this connection inasmuch as the circuit breaker actually

3970 purchased—the circuit breaker which Illinois-Iowa Electric Power Company had for sale, had a reclosing time of 35 cycles, whereas the requirements of Wisconsin Electric Power Company didn't require quite as rapid operation as that.

Because of that fact, the circuit breaker owned by Illinois-Iowa Power Company was of a higher quality and a higher cost than was the type of breaker on which Wisconsin Elec-

—1,792—

3971 tric Po er Company had obtained bids from manufacturers.

In negotiating with Illinois-Iowa Power Company, Wisconsin Electric Power Company insisted that it would not pay anymore for the breaker than it would cost the company to buy new the kind of breaker which its requirements called for and an agreement was reached with the Illinois-Iowa Power Company for the purchase of that oil circuit breaker for $17,880.00, but before the purchase was made, approval was obtained from the Public Service Commission of Wisconsin.

Q. And when did this instance take place? A. That pur-

3972 chase was made in—that was quite recently.

Q. Approximately. A. I believe it was in 1940. It was in this year, the early part of this year.

Another contract between affiliated interests which was submitted to the Public Service Commission of Wisconsin for approval, is the reciprocal pole contract agreement now in effect between Wisconsin Electric Power Company and Wisconsin Gas & Electric Company.

This agreement provides that where the lines of the two companies followed the same course, that each company may

place its wires on the poles of the other if there is room for such wires on those poles, without paying any rental for the use of such contacts.

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The arrangement is reciprocal in that each company has the privilege of using the poles of the other and is made on that basis, in order to avoid extensive accounting for numbers of contacts and billing for the use of such property.

Wisconsin Public Service Commission has approved this contract arrangement between the two companies. Some of 3974
these contracts which I have described and will describe were in effect prior to the issuance of the Public Service Commission's order requiring the filing of contracts between affiliates.

Those contracts which were in effect at the time the order was issued, were immediately reported to the Public Service Commission of Wisconsin for approval and subsequent to that time, all contracts, between the affiliated companies are reported to the Commission and the approval of the Commission is obtained before the contracts are made effective.

Another arrangement between affiliated companies and 3975
one which was in effect before the issuance of the order requiring the filing of such contracts, is the arrangement between Wisconsin Electric Power Company and Wisconsin Gas & Electric Company, and between Wisconsin Electric Power Company and Wisconsin Michigan Power Company, under which Wisconsin Electric Power Company acts as transfer agent and also handles the payment of dividends on preferred stocks of the other two companies.

Q. Are those operations carried on at the main office of

—1,794—

3976 *Edward H. Schmidtman—By Respondents—Direct*

the Wisconsin Electric Power Company in Milwaukee? A. Yes, they are. This contract was reported to the Public Service Commission immediately upon the issuance of its order concerning such contracts and the approval of the Commission was obtained.

In connection with this same order of the Service Com-...ssion of Wisconsin, the three companies of the Wisconsin-Michigan group of North American properties have submitted to the Public Service Commission information as to the
3977 affiliation of all directors and officers and the names of the holders of 1 per cent. or more of the voting capital stock in each of the companies.

At the present time, the companies report annually the twenty largest holders of common stock and preferred stock to the Public Service Commission of Wisconsin.

The Wisconsin Public Service Commission also exercises extensive control over the accounting practices of public utilities and the three companies of the Wisconsin-Michigan group comply with the requirements of the Commission in this respect. Beginning as far back as 1908, when the Rail-
3978 road Commission of Wisconsin was given jurisdiction over public utilities, the companies have complied with Commission requirements respecting classifications of accounts.

The most recent classification under which the electric and gas utilities in Wisconsin are operating, are the Uniform System of Accounts for electric utilities and the Uniform

System of Accounts for gas utilities, both of which became effective January 1, 1938.

These classifications are substantially in accord with the system of accounts for electric utilities approved by the

National Association of Railroad and Utilities Commissioners, and also substantially in accord with the classification of accounts ordered by the Federal Power Commission as of January 1, 1937.

These classifications completely prescribe what accounts shall be kept and specify just what items shall be charged and credited to each account. This classification of accounts covers all balance sheet accounts and all accounts in which revenues and expenses are recorded.

The companies of the Wisconsin-Michigan group comply 3980
fully with the requirements of the Public Service Commission in this respect. The three companies of the Wisconsin-Michigan group also filed with the Public Service Commission of Wisconsin their estimates of the average annual rates of depreciation required for the various classes of fixed capital used for public utility purposes, and also the composite annual rate of depreciation required for fixed capital in the aggregate.

These estimates are submited to the Wisconsin Public Service Commission for review and for certification, and such certification is obtained before the rates submitted by the 3981

companies are put into effect in making provisions for depreciation.

Also, pursuant to the request of the Public Service Commission, comprehensive studies of the company's estimate of depreciation requirements were submitted by The Milwaukee Electric Railway and Light Company, the predecessor in name to the Wisconsin Electric Power Company, on November 1, 1933, and again by Wisconsin Electric Power Company on December 29, 1938.

3982 *Edward H. Schmidtman—By Respondents—Direct*

Such reports were submitted by Wisconsin Gas and Electric Company on January 31, 1934, and again on June 30, 1938, and by Michigan Power Company on December 30, 1938.

In compliance with the Public Service Commission's requirements concerning depreciation rates, the companies have repeated their analyses of depreciation requirements so as to keep the depreciation rates currently in effect closely in step with the latest depreciation experience which it does
3983 have available.

In further regard to depreciation practices, the companies of the Wisconsin-Michigan group comply with the requirements of the Public Service Commission of Wisconsin with respect to the methods of accruing depreciation as well as with respect to the rates to be used in such accruals.

The utilities are permitted—that is, the utilities of this group—to employ the sinking fund method of depreciation upon specific approval of the Public Service Commission.

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In its Uniform System of Accounts for electric and gas
3984 utilities prescribed by the Public Service Commission to be effective January 31, 1938, the Commission has conditioned the use of the sinking fund basis of accumulating depreciation upon the filing within a limited time of statements requesting the use of the sinking fund method.

Wisconsin Electric Power Company, Wisconsin Gas & Electric Company, and Wisconsin Michigan Power Company have filed such statements and have obtained from the Public Service Commission of Wisconsin, an order authorizing the following of the sinking fund method of accruing depreciation.

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With respect to fixed capital accounting, the companies of the Wisconsin-Michigan group also conform to the requirement of the Public Service Commission of Wisconsin and in the case of the Wisconsin Michigan Power Company, the Public Utilities Commission of Michigan.

In a letter dated April 10, 1935, and in a general order issued in November of 1935, the Public Service Commission of Wisconsin required the establishment of certain detailed fixed capital records for the keeping of a so-called continuous inventory or a unit record of property and plant. 3986

Pursuant to the requirements of that order, the Commission has supervised the taking of inventories and the establishment of unit property records by all three companies in the Wisconsin-Michigan group.

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Prior to the issuance of the Commission's letter and order requiring the establishment of continuous inventory property records, the companies of the Wisconsin-Michigan group were keeping detailed fixed capital records covering all additions and all retirements of property and plant.

These fixed capital records were based upon initial inventories and included all additions and removals from the dates of those inventories down to the present time. The inventory of Wisconsin Electric Power Company which formed the basis for the property record, was one taken in 1914. 3987

The property record of that company was not instituted until about 1922, but during the succeeding years, all additions and removals of fixed capital of the Wisconsin Electric Power Company since 1914 were carefully analyzed by the property and plant accounting division of the general accounting department. Detailed work order and retirement

3988 *Edward H. Schmidtman—By Respondents—Direct*

analyses were prepared covering each construction job and each retirement order, and at the time of the issuance of the Commission's order and letter, Wisconsin Electric Power Company's fixed capital record was an accurate account of all property in service at that time.

The fixed capital records of Wisconsin Gas & Electric Company and Wisconsin Michigan Power Company were likewise based upon inventories and appraisals taken in earlier years, supplemented by detailed analyses of additions
3989 and removals up to the present time.

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The continuous inventory records which are now being established by the three companies of the group are in accordance with the requirements laid down by the Commission in its letter and order requiring the establishment of such records. The records being established by the three companies are not identical in type, the difference being due to the difference in nature of the systems and the convenience and efficiency of keeping records in the different volumes re-
3990 quired by the three companies.

The record being kept by the Wisconsin Electric Power Company will be the most detailed unit property record kept by any electric utility in the State of Wisconsin. It is now being developed for overhead transmission and distribution property and will consist basically of punched cards, each card representing one unit of property.

There will be altogether over a million units of property represented by over a million cards, covering the overhead transmission and distribution facilities only. This record is in considerably more detail than is required by the Public

Service Commission, but the added detail was decided upon by Wisconsin Electric Power Company because of value which the company would receive from having a record of that kind.

The records being developed by Wisconsin Gas & Electric Company and the Wisconsin Michigan Power Company are in less detail, but are still sufficiently detailed and are capable of sufficiently searching controls to completely sat-

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isfy the requirements of the Commission. 3992

The three companies of the Wisconsin-Michigan group also comply with requirements of the Public Service Commission of Wisconsin and the Michigan Public Utilities Commission with respect to detailed annual reports covering financial and statistical, as well as accounting data.

At present separate annual financial and operating reports are submitted by the utilities. Both reports are very extensive and cover detailed data on the companies operations. The companies also furnish currently to the Commissions copies of their monthly financial and operating reports.

3993

The companies of the group also comply with the requirements of the Public Service Commission of Wisconsin with respect to the reclassification of the utilities' plant on the basis of original cost. Report covering extensive investigations of the records of the three companies have been filed with the Public Service Commission of Wisconsin, setting forth the reclassification of property on the original cost basis.

In addition to submitting reports covering the operations and financial results of the electric utility and gas

utility operations, the companies also comply with the Commission's authority covering the merchandising of electrical and gas appliances.

In the case of acquisitions of utility properties, such as

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the purchase of small isolated systems; the three companies comply with Commission requirements with respect to accounting and price paid for such properties. The accounting that is carried out is strictly in accordance with the Com-
3995 mission requirements and if the price paid for the property differs from the values found by the Commission, the differences must be accounted for according to instructions by the regulatory Commission.

Q. Are the companies in the group subject to regulation by the State Commission with respect to issuance of securities? A. Yes, they are.

Q. And do they file applications with the Commission with respect to such issuance? A. Yes. The companies of the group have not issued any securities since 1907 without first obtaining authority from the Public Service Commis-
3996 sion.

All proposed issues of securities of whatever type, must be submitted to the Commission for examination and approval before being issued, and all issues of securities made by the three companies have had such certificates of approval from the regulatory authorities.

Q. In the case of Wisconsin Michigan Power Company, doesn't that also mean getting the approval of the Commission for the issuance of securities? A. Yes.

Q. So that in that instance you have duplicate regulation

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of the issues, of the same security issues? A. Yes, that is right. When the Wisconsin Michigan Power Company wishes to issue securities, such issues must have the approval of the Michigan Public Utilities Commission as well as of the Wisconsin Public Service Commission.

Pursuant to the authority of the Commissions over the issuance of securities, the Wisconsin-Michigan companies have filed numerous applications, some of the recent ones being the application of the Wisconsin Michigan Electric Power Company filed February 20, 1940, for authority to 3998
issue 4¾ per cent. preferred stock and common stock, the application filed by Wisconsin Gas & Electric Company on June 19, 1939, for authority to issue 4½ per cent. preferred stock and 2¾ per cent. unsecured promissory notes, and the application of the Wisconsin Michigan Power Company, filed on October 30, 1939, for authority to issue 4½ per cent. preferred stock, 2½ per cent. promissory notes, and common stock.

Applications filed with the Commissions covering these issues contain statements as to the purpose, the terms, and the proposed distribution of the proceeds of the sale of such 3999
securities.

They also stated the minimum price and gave various financial information such as income statements, balance sheets, and pro forma statements showing the effect of the proposed transactions.

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After application for the issuance of securities has been filed with the Commission, public hearings are held wherever it is deemed possible, by the Commission, that the interest of third parties may be affected.

4000 *Edward H. Schmidtman—By Respondents—Direct*

In the case of Wisconsin Electric Power Company, for instance, such hearings have been attended by representatives of the City of Milwaukee, the representatives appearing at such hearings in the public interest.

Q. Now, without going into detail on questions of form of application and hearings, subsequent to the entry of the Commission's orders approving the issuance of securities, are further reports filed by the companies with respect to the application proceeds and other related matters?

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The Witness: Will you read the question?

(Whereupon the pending question was read by the reporter.)

The Witness: Yes, such reports are required by the Commission.

By Mr. Hamilton:

Q. And are filed by the companies? A. Yes, and are filed by the companies. These statements set forth complete descriptions of the transactions, the detailed accounting for the proceeds received from the sale of the securities, and the disposition of such proceeds, and copies of the journal entries reflecting the transactions on the books of the company have also been filed in such reports.

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Q. Proceed with your statement. A. The approval of the Public Service Commission of Wisconsin and the Public Utilities Commission of Michigan is also required in the case of the consolidation or acquisition of the property or securities of one utility by another.

In such instances, the Commission holds public hearings and considers the reasonable value of the property or securities involved and gives consideration to the effect of the proposed transactions upon the utility merging or acquiring such properties or securities.

Similar consideration is given by the Commission to the sale or leasing or renting of any utility property constituting a complete operating unit or system.

Pursuant to the authority of the Commission, the companies have, on numerous occasions, applied for and received 4004
authorization, some including the consolidation of the former Wisconsin Electric Power Company with the Milwaukee Electric Railway and Light Company, the sale of certain transportation properties of the former The Milwaukee Electric Railway and Light Company to The Milwaukee Electric Railway and Transport Company, the present transportation subsidiary of the Wisconsin Electric Power Company, and the acquisition by Wisconsin Gas & Electric Company and Wisconsin Michigan Power Company of numerous small operating utility systems from time to time, some involving a consideration of as little as $800.00. 4005

No abandonments or discontinuance of service of any line, nor any extension of service into new territory, may be made, nor has been made by the companies of the Wisconsin-Michigan group without first securing specific approval from the Wisconsin Public Service Commission.

In granting its approval to abandon property, the Commission may impose such terms or requirements as are necessary to protect the public interest and it does impose such requirements.

Among those requirements are specifications as to the accounting for the book value of the property abandoned, the method of amortizing the investment, and the establishment of substitute service for the service discontinued.

Q. Have you any data as to the expense to the companies of the Wisconsin-Michigan group of complying with regulation by the Wisconsin Commission? A. Yes, I have. In the year 1939, the total costs incurred by Wisconsin Electric Power Company in complying with the requirements of all
4007 regulatory authorities, was $102,500.00.

Q. My question relates only to the Wisconsin Commission. A. The expenses incurred by Wisconsin Electric Power as the result of regulation by the Public Service Commission of Wisconsin in 1939 amounted to slightly over $96,000.00. For Wisconsin Gas & Electric Company, the corresponding figure is slightly over $40,000.00, and for Wisconsin Michigan Power Company the cost of regulation by the Wisconsin

Public Service Commission was slightly over $8,500.00.

Q. Are those figures which you have given exclusive of
4008 any financing charges? A. Yes, they are.

Q. Do they include your direct labor at cost in connection with the reports and statistical findings? A. Yes, they include direct labor at actual cost and they also include assessments paid to the Commission by the companies to cover costs of investigations conducted by the staff of the Public Service Commission.

These assessments consist of two general classes. In ordering an investigation of any phase of the business of a public utility in Wisconsin, the Public Service Commission may

and frequently does order the cost of such investigation to be assessed directly against the company investigated.

In addition to such assessments the Commission makes, near the end of each fiscal year, what is known as a remainder assessment, which is made in order to cover the costs of the Commission over and above the money collected by the direct assessments of specific investigations.

The figures which I have given include both the direct assessments and the remainder assessments.

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Q. In order to clarify your statement, isn't it true that the figures which you have given are exclusive of any filing

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fees in connection with the issuance of securities? A. Yes, that is true. These costs which I have just given come about partly through investigations which the Public Service Commission has had under way in the offices of our three companies for some time.

Since 1932, the Public Service Commission has had representatives working continuously in the offices of one or more of the three companies of the Wisconsin-Michigan 4011 group down to the present time.

At times, the number of Commission representatives working in the office of one company has found as great as six or seven individuals, and at one time during that period have the forces been entirely withdrawn.

There have been short interruptions due to sicknesses and vacations, but the people of the Commission's staff assigned to those investigations have been spending full time on these investigations.

4012 *Gould W. Van Derzee—By Respondents—Direct*

Q. Do either Wisconsin Gas & Electric Company or Wisconsin Electric Power Company own or operate any electric or gas transmission or distribution facilities outside of the State of Wisconsin? A. No.

Q. Either of the two companies which I have just named transmit or distribute electric energy or gas outside of the State of Wisconsin? A. No, they do not.

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4013 Mr. Hamilton: That is all.

Miss Calkins: I should like to defer cross examination until this afternoon.

The Examiner: Very well. You may be excused temporarily.

Whereupon, GOULD W. VAN DERZEE, a witness called on behalf of the Respondents, having been first duly sworn, was examined and testified as follows:

Direct Examination by Mr. Browning:

4014 Q. Will you give your full name and address to the reporter, Mr. Van Derzee? A. Gould W. Van Derzee.

(Discussion off the record.)

Q. Did you give your residence? A. My residence is Whitefish Bay, Wisconsin.

Q. Will you describe briefly your education and business experience? A. Well, I had better go back to the beginning. I was born in Albany, New York, January 8, 1886, and at the age of four my parents moved to Superior, Wisconsin.

After three years there, they moved again to Green Bay, Wisconsin, where I attended the grade school for seven years, until about 1900. Then the family moved to Chicago and I had one year in grade school and thus finished the grade

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school, and one year in high school. We then moved back to Wisconsin, which was becoming our native land and I finished my secondary education first in the high school in Milwaukee, being there for three years, and then took my university education at Madison, Wisconsin. 4016

My course was electrical engineering and in 1908 I received the degree of bachelor of science in electrical engineering.

Q. This was at the University of Wisconsin? A. That is right. Before I went to the university, I had the idea that I wanted to get into what was then known as the Central Station Business, now the Public Utility Business. I thought the best way to do that was to gain employment with some large electrical manufacturing concern, but when I graduated, it was shortly after the money panic of 1907 and I was unable to get into the shops of the General Electric Company 4017 where I really wanted to go, so I took a position in the Michigan School of Mines at Houghton, Michigan, teaching mathematics, physics and electrical subjects, until the summer or 1910.

Then, I was able to follow my original intent and secured a position with the General Electric Company in the shops, if you can call that a position. You can better call it a job.

From July, 1910, until about February, 1911, I worked in the shops of the General Electric Company at Schenectady, on the sixty-hour a week night shift. We did shop work,

4018 tested and assembled electric equipment of all kinds, direct

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current motors and generators, alternating current motors of the squirrel cage and slip ring type, synchronous motor generator sets, and I even worked, I recollect, on balancing the rotor of one of the large vertical turbines that were going through the shop then and which was destined to go to the company that I am working for now.

In February 1911 I applied for an examination to get into
4019 the sales work in the General Electric Company. You had to face some barrier of sales experts and give them, by questioning on their part, what you knew about the work you had taken in the shops. I was able to pass that examination and in February 1911 I landed in the Chicago office of the General Electric Company in sales work. There I assisted one of the salesmen, a rather mediocre job.

Shortly after that in May 1911 the General Electric Company decided to open up an office in Milwaukee and that was heading towards my home town so I applied for a position as assistant to the one-man manager who was to go there
4020 and fortunately for me I secured the position.

In a little while I had a sales quota to accomplish during the year, that is a designated amount of goods to sell, and for the next year or so, to be exact until March 1, 1913, I was selling from door to door, gaining experience in the sales work which I was really very much interested in. The work was quite largely going into factories, observing the then

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very prevalent line shafting that you would see in a factory driven by an individual gas engine or steam engine, and endeavoring to show the owner how he could save money by

buying the motors and equipment which I had to sell, and figuring out for him where those motors should go using individual drive and doing away with friction losses, doing away with the steam engine and some saving in labor.

So I worked in that way for the period of time indicated, trying to cooperate as much as possible with the utility then known as The Milwaukee Electric Railway and Light Company which was in that city, which did the central station or public utility business, March 1, 1913 was a very important date for me. When vice president S. B. Way, who is now 4022 president of Wisconsin Electric Power Company, the successor to the then The Milwaukee Electric Railway and Light Company, called me in his office and offered me a job which I took as assistant to him.

In 1918—skipping over the intervening years—I was appointed assistant general manager of the company, in 1925 vice president and assistant general manager. In 1932 I was elected to the board of directors, and in 1934 was appointed general manager and a member of the executive committee, and from that time until the present I have held the position of vice president and general manager. 4023

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I am also vice president and director of The Milwaukee Electric Railway and Transport Company which is a wholly-owned subsidiary of the Wisconsin Electric Power Company, a vice president and director of Wisconsin Gas and Electric Company, and a vice president and director of Wisconsin Michigan Power Company, and have been the vice president of each since 1932.

I hold the position of vice president and director of Wisconsin General Railway, also a subsidiary of Wisconsin

4024 Electric Power Company, and am vice president and director of Milwaukee Light, Heat and Traction Company, and vice president and director of Hevi-Duty Electric Company.

Q. How long have you resided in Milwaukee or its suburbs? A. I have been continuously in Milwaukee and its suburbs for approximately 29 years, of which I have been with the company going on 28 years. In the village of Whitefish Bay, which has a population now of about 10,000, I have served as trustee of the Village board for three consecutive
4025 terms of two years each. During that time I was chairman of the finance committee and chairman of the zoning and park committee. I have been president of the Community Church of the village of Whitefish Bay.

In the metropolitan area my outside duties have included active participation in the work of the Traveler's Aid Society, the Family Welfare Association, with which I worked intimately on their case committees, and the Community Fund.

Q. Those are community activities of greater Milwaukee?

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4026 A. That is true, and in general I have tried to do my share at least, as I saw it, in the community activities of the city where I make a living and where I have lived with little exception almost continuously, except when I was away at a few of the jobs enumerated, for nearly 40 years.

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Q. Are you a director of a Milwaukee bank? A. I am a director of the Marshall and Ilsley Bank. This bank is the oldest bank in what was once known as the Northwest Territory and it is the second largest bank in Wisconsin. I am

a member of the executive committee of that bank as well as being a director.

Q. Have you held any office in the Gyro Club? A. I have been president of the Gyro Club, which is an international business men's organization.

Q. Will you tell us who are the members of the board of directors of the Wisconsin Electric Power Company and when they were elected to office? A. I will give the name first and then the date on which each was elected to the board: 4028

Sylvester B. Way	May 28, 1921
Gould W. Van Derzee	June 27, 1932
Frank J. Boehm	August 31, 1937
James D. Shaw	December 19, 1927
William W. Coleman	January 25, 1926
Herbert C. Freeman	February 14, 1933
James F. Fogarty	May 31, 1921
Frederick H. Piske	August 31, 1937
Robert Sealy	December 20, 1938

Q. Now, will you tell us briefly about Mr. Way? First, you might say what position he holds. A. Mr. Way is president of Wisconsin Electric Power Company. He is a resident of the city of Milwaukee and he is 66 years old. Mr. Way's history records that he attended the grade and high schools in the state of Kansas, completing his common school education at the age of 17. He received a scholarship and entered Drexel Institute in Philadelphia in the fall of 1892. After leaving school in 1896 he entered the employment of the Electric Storage Battery Company as a draftsman. Later he 4029

4030 became an erecting engineer with the same company and one of his assignments took him to the city of St. Louis.

After completing this particular job he remained in St. Louis and entered the employment of the Imperial Electric Light, Heat and Power Company, a predecessor of the present Union Electric Company of Missouri, in the position of chief engineer or electrician.

In 1903 he advanced to the position of chief electrical engineer, which position he held until leaving that company.

4031 Mr. Way entered the service of The Milwaukee Electric Railway and Light Company, the predecessor to the present Wisconsin Electric Power Company, on November 1, 1911, as assistant general manager in charge of the electric and heating operations. On April 1, 1914 he was elected to the position of vice president and general manager and on October 23, 1925, he was elected president of the company and continued as general manager until March 1934, at which time he relinquished the position of general manager.

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Mr. Way received his early training with the St. Louis
4032 subsidiary of the North American Company and was moved to Milwaukee by the North American Company. Mr. Way has resided in the territory served by the companies for over 28 years and has been with the company for 28 years.

There are some things that Mr. Way would not want to say if he were making this record but it can be said truthfully that Mr. Way is an outstanding utility executive in this country and that he has left a very definite mark on the utility industry. He is what you would describe as a prodigious worker. He has devoted his life to the company, really, and his intense passion for finding better and cheaper

ways to do things has really resulted in some very remarkable engineering achievements which the company and the industry have enjoyed.

I have given my own history as a director of the company and a long local resident of the community.

Next we come to Mr. Frank J. Boehm. Mr. Boehm also resides in the village of Whitefish Bay. He is now an elderly gentleman, 73 years old. Mr. Boehm entered the service of a predecessor company of the present Wisconsin Electric Power Company on February 6, 1882, as a clerk. Starting 4034 from that date his progress record reads something as follows:

On January 1, 1886 he was assistant bookkeeper. January 1, 1891, bookkeeper. February 1, 1906, he rose to the position of comptroller and auditor. On March 26, 1906, as-

sistant secretary and assistant treasurer. On March 23, 1926, secretary and treasurer, the position he now holds.

Mr. Boehm is really an unusual personality. He started in the business when they had straw in the bottom of the cars to keep your feet warm in the horse-car days. One of Mr. 4035 Boehm's early recollections of his job is waiting for horse-cars to go by the small office of the company, his job being that known as the robber of fare boxes. Mr. Boehm would see the car coming and knew that it had some money on board because of the number of trips that he had allowed it to go by without taking the money, and he would jump on the car, take the money, put it in a sack, and then take it to the bank. Those were the primitive early accounting operations of the early street car days.

4036 Q. He has resided in the territory then during this period of 58 years? A. Most of his life.

Mr. James D. Shaw is a director whose residence is Milwaukee. Mr. Shaw is 61 years old. He was graduated from the law school of the University of Wisconsin. He entered the service of the company on September 1, 1899, as an attorney and member of the law firm which was then counsel for the company. At the present time he is senior member of the law firm of Shaw, Muskat and Paulsen, which firm is
4037 general counsel for the company in Milwaukee.

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Mr. Shaw also has a record of long residence in the local community and has been with the company 40 years. In fact, I had the personal pleasure of bestowing upon him last year at our annual meeting of the Veterans' Association, the so-called double veterans' medal for 40 years of continuous service.

Mr. William W. Coleman is a resident of Milwaukee. Mr. Coleman is president and chairman of the board of directors of Bucyrus Erie Company, which is located at South Mil-
4038 waukee, Wisconsin. Mr. Coleman has been a resident of the local community for many years and a director of this company for 14 years. He is recognized as an outstanding public spirited citizen and for many years he has been president of the Community Fund, that is the community of greater Milwaukee area.

Mr. Herbert C. Freeman is vice president of the North American Company and has been in the employ of that company in New York for approximately 14 years. He is also a director of Wisconsin Electric Power Company and has been such for seven years.

Mr. James F. Fogarty is chairman of the executive and finance committee of the North American Company. He entered the employ of the North American Company approximately 38 years ago as a junior clerk and has been a director of Wisconsin Electric Power Company for a little more than 19 years.

Frederick H. Piske is a vice president of the North American Company. He entered the employ of the North American Company approximately 30 years ago as a junior clerk and has been a director of Wisconsin Electric Power Com- 4040

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pany for a little less than three years.

Mr. Robert Sealy, as I recollect, served in the capacity of sales manager for The Milwaukee Electric Railway and Light Company back in 1912 when I was still working for General Electric Company in Milwaukee. It happened that we had our offices in the Public Service Building and he came on for a time, sent by the North American Company to fill an existing gap as sales manager until another could be secured.

After leaving The Milwaukee Electric Railway and Light 4041 Company then Mr. Sealy entered the employment of the North American Company and is now treasurer of that company. He has been a director of the Wisconsin Electric Power Company for a little less than two years. Both Mr. Piske and Mr. Sealy, who are the directors who have been with the company the shortest period of time, have for a great many years been intimately connected with the operations of the company and I say that because I did not want to have the impression left that the short time they have been with the company has anything to do with the real knowledge

that they have of the company affairs and the same can be said with respect to all of the directors of the company, irrespective of how long they have been with the company, that they do have a very intimate knowledge of the affairs of the company.

It is interesting to note in connection with the enumeration of the directors, that five of the nine directors have been

local residents in Wisconsin for many years and are a part
4043 of the community in which they live.

Q. How often does the board of directors meet and what are its functions, Mr. Van Derzee? A. The board of directors of the Wisconsin Electric Power Company normally meets a minimum of four times a month——

Q. A month? A. A year—but the executive committee which is composed of Messrs. Way, Van Derzee, Shaw and Coleman meets generally once a week. The board of directors is in charge, naturally, of the active management of the business and directs the business in all of its phases.

4044 All of the directors, as I have stated previously, are intimately connected with the affairs of the company and its operations, and all of the directors receive at least once a month detailed reports, on the 15th or before, of the operations of the company in great detail, covering the previous month.

While the board of directors takes all the formal action such as declaration of dividends, election of officers, authorization of the issuance of securities and things like that are set up in the articles of incorporation, the board has delegated to the executive committee and has found it more con-

venient to do so, the closer supervision of the operating affairs of the company.

As stated previously the executive committee consists of

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Messrs. Way, Van Derzee, Shaw and Coleman, all of whom reside in Milwaukee, and this committee meets weekly unless there is some reason why they can't get a quorum.

These meetings are often very extended, and at them all of the important operating conditions and problems of the company are discussed in great detail. 4046

I would like to go down through what is the normal agenda for a meeting of that kind so that you can better appreciate the intimate detail in which the executive committee functions with respect to the problems of the business.

The first thing that usually comes up at a meeting of the executive committee is a report of the cash on hand. We have a statement of the major receipts of cash, such as from electric and heating operations, merchandise, and miscellaneous sources; the disbursements of cash by their major divisions are given. 4047

In other words, if we have made a large contract on a turbine it is shown as a contract disbursement. If we have paid a dividend it will be shown as a dividend disbursement. The pay roll is set out. If we pay an important tax item that is set forth, and all the other miscellaneous disbursements are shown which are of importance.

Then after those are discussed as necessary we look at the forecast of cash which is usually with us for a period of 12 months ahead and we can determine from that and the problems which are coming up that require expenditures of

cash, if the amount of money we have on hand in sight is

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going to meet the needs of the business.

The next item which usually follows is under the heading of "Public Service Commission matters". Under that are applications which have been made to the Public Service Commission by the company and by others for various reasons, and orders which are received from time to time from the Commission.

4049 For example, at a recent meeting a few weeks ago I recollect we discussed an order handed down by the Commission on the very complicated subject of depreciation. This order provided for the sinking fund method of depreciation with a 3½ per cent. interest addition annually to the reserve balances.

The directors of the company who are on the executive committee understand, I believe, with more than ordinary understanding, a problem as complicated as the discussion of sinking fund depreciation. It is, of course, one of our duties to determine under this heading whether or not ac-

4050 tion shall be taken on an order, that is, is it one that the company may properly accept in the interest of the business? Should it be objected to through the regular channels provided for such objections? And, in connection with this particular order that I just recited it was our conclusion that the order should be accepted, that it was a proper one for the company to follow.

Another important topic that is taken up by the executive committee and usually following in the order just given, is that of municipal matters. We, of course, receive from

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the many municipalities in which we do business copies of the minutes of their various deliberations and undertakings. Those are scanned to see what, if any, decisions, discussions, have an important bearing on the operations of the company. They are brought to the meeting in a condensed form and discussed.

As an example of one of those discussions a number of months ago when we decided we needed to increase the capacity of the 96th Street high voltage sub-station we ran into the very uncomfortable discovery that the property 4052
had been rezoned for residential purposes. It was necessary to have the zoning changed. Our representatives who handle those matters took the subject up in the regular course of duty and at this recent meeting that I recollect we discussed the formal and final order of the county board rezoning the 96th Street sub-station so as to permit the extensive development the company was about to make at that point.

We try to keep the members of the executive committee informed on all operating matters. We have a heading in the agenda which is "Operating Matters". We don't pretend to cover everything under that heading but there are 4053
some things that are usually and normally covered every week under that heading.

The directors are very much interested in the kilowatt hour output of the company for the preceding week. They are interested in comparing that with figures which we have at the same time showing the kilowatt hour output of the

several subsidiaries of the North American Company, St. Louis, Cleveland, Washington, and the comparison of the percentage increase of our output for the past week, for the

previous year, and with the results of the other companies, affords text for a good deal of discussion as to what the reasons for departures are, what the business condition is that may have brought about changes, and what we can do, if anything, to change any trend that may be evident, not from a single week but from our knowledge of what has happened over a period of weeks.

The comparison is also made with the national output which, of course, is more of a composite figure and does not
4055 mean so much because it reflects conditions all over the country, while a comparison of these associated properties in the North American group which, with the exception of Washington, are highly industrialized like Milwaukee, gives us a very good comparative basis for discussion.

We report at these meetings under the heading of "Operating Conditions", the property additions and the property retirements of the company by each individual work order, and property retirement requisition. This is only done once a month but it is possible by this method to see just how the different operating divisions are functioning on the impor-
4056 tant subject of keeping within the budgets which the executive committee has previously gone over in great detail and which are the law of the land as far as the operating depart-

ments are concerned on the question of allowable expenditure.

When special projects come up and they do, if we don't have enough, as we see it, in the operating budget over-all allowance made at the beginning of the year, then it is necessary for the executive committee to make a special appropria-

tion. The work cannot proceed without such an appropriation.

We discuss many other matters under this heading regularly. They include such things as power plant efficiency. We have what we believe are some very excellent power plants that I would like to discuss more in detail a little later. We regularly have once a month the kilowatt hours used by 30 large industrial customers who have been on the system for a good many years and whose changing use of kilowatt hours we think is a rather good index of industrial 4058
operations, so we see what is happening to that curve.

It might be interesting for you to know that that curve has been in operation for a period preceding 1929 and in June 1929 that curve took a decided slump but in the presence of all the history that had gone before we did not realize the importance of that particular curve and the slump which it took in that month. History has shown that that was the month in which business actually began the slump before the severe depression that started publicly in October of that year.

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We also have before us the results of impressions and conclusions of a number of economists and business analysts.

—1,826—

We take these for what we think they are worth and it is good to get all kinds of opinions, particularly at this time, on the business situation. We also are interested in watching the ups and downs and predictions with respect to the Federal Reserve Board index of industrial production. We have to attempt to predict that a year ahead in making up our budgets because the largest single unit of electric service

sales is in the field of industrial power and that has some relation to the business situation.

I will not attempt to enumerate all of the other things that are handled under the heading of "Operating Matters", but rather go to one of the very important subjects that we discussed at each meeting, relating to sales promotion. Under this heading the accomplishments of the sales department are discussed. The meeting is not devoted entirely to a discussion of accomplishments except insofar as a study
4061 of history is a good index of what we ought to do in the future, but we do discuss and look at the most recent history of the operations of the sales department we can get.

We have up to the period of the month ending the night before the meeting at each of these meetings of the executive committee, a statement of the number of electric ranges which have been sold for the month and the year to date, compared with the corresponding periods of the preceding year. —1,827—

We have a similar statement of the number of water heaters, electrically operated naturally, that are similarly
4062 sold. The number of better-sight lamps, the number of roasters, which are a very important item in creating a desire to cook electrically. We also have a record of the amount in dollars of the incandescent lamp bulbs that are sold because that is some index of how well the boys are doing in getting new bulbs into homes.

Some of these figures are for the industry as a whole insofar as we can get it, for these sales, and that includes electric water heaters and electric ranges, but the other comparative sales which include refrigerators are just the sales of our own sales department.

In that connection I would like to emphasize that we place stress on the selling of things that the average merchant is unable to proceed with as enthusiastically as we would like to see him. That is because in some of these things there is a tremendous sales development expense. That has been going on in the promotion of electric water heaters. They have not as yet reached the complete stage of acceptance, say, that an electric refrigerator has, and it is true of other things.

An example which may never be a practical device is an 4064
electric garbage burner. You don't hear about electric garbage burners. There are good reasons why you don't hear about them. They can be made. They are very expensive. They can't be sold in quantity. A dealer just will not put them on the shelf. A dealer will put the things on the shelf

—1,828—

when the time comes that they have national acceptance and they are easy to sell without necessarily having high sales expense by a salesman calling door to door, and when he can expect to have the public come in and take such devices off
the shelf. 4065

We discuss at these meetings of the executive committee, the new sales developments and we give our advice to the vice president in charge of sales. If he has a project that we don't think is particularly good, and yet about which he is particularly enthusiastic, he may be invited into the executive committee to give his own views on the subject. We try to keep our head officers and others informed on the supervision that the executive committee gives locally to the operations of this company, not only so that they will know what is going on, but because the knowledge that their problems

are intimately looked at week by week by the head officers of the company, is an encouraging thing, and there isn't a single thing that the company does that really requires more encouragement and the injection of more enthusiasm than the business of selling. It is a study of psychology. You can put the damper on sales efforts by a word or a gesture. I did not mean to say that sales people are opera singers but they do have some of the tendencies and they need to be treated in a very definite way and with an understanding of
4067 what their problems are.

To do that you have to do it from door to door. As an

example of some of the things that the executive committee approves, we had at a recent meeting a recommendation by the sales manager that the company cooperate rather extensively with a Milwaukee newspaper called the Milwaukee Sentinel, in a Feminine Fair to be held at the Milwaukee auditorium which seats some 15,000 people, in connection with which, if we so desired to cooperate, they would have among other things to attract the women of the community,
4068 an all-electric cooking exhibit, and they would go so far as to build and give away as a prize to the lucky one who drew the number, this $8,000 all-electric home.

We were asked to cooperate with the Wisconsin Chapter of Architects which was called upon by the Milwaukee Sentinel to build this home and make it an all-electric home. We had some other plans for the year end leading up to the Christmas period when we try to get as many people as possible to buy electrical gifts for Christmas, but this sounded so good to us that we decided to shift an item of several thousand dollars that we had for a year-end contest

to cooperating with the Milwaukee Sentinel in carrying on the project of the Feminine Fair with its attendant gift of an all-electric home.

(Discussion off the record.)

Q. Now, you have another item on the agenda entitled "Miscellaneous Matters"? A. Yes. Under that heading we bring to the attention of the committee information on any activity which has occurred during the past week and which

—1,830— 4070

is normally not handled under some other heading.

We also regularly have a discussion of coal. We give the amount of coal on hand, the amount received and disbursed. When coal contracts are up to be signed, the price details, where the coal is coming from, are all brought before the executive committee before the officers execute contracts.

We naturally have the very important subdivision known as the "Labor Situation". This does not mean that there is necessarily anything requiring particular attention on the subject of labor but we do think it is a good thing to have the executive committee see the number of people who are 4071 entering the services of the company each week, the number that are leaving, and to have them divided by important groups, that is how many came into the accounting department, how many left the accounting department, how many came into the electric distribution department and how many left.

Just recently there was a rather large increase in the electric distribution department. Immediately the committee wanted to know why that occurred and it was due to the employment of a substantial number of needy students

4072 who were good, big and husky and wanted to work during the summer, and were just the men that we like to have go out and dig ditches.

The only real complaint I have ever heard in connection with employing these students—I think we had over 50 during the summer—was that they have the objective of in-

—1,831—

creasing the size of their muscles and that isn't definitely known to be a characteristic of the average workman doing
4073 the same work and the trouble is they set too fast a pace, but that was the explanation and similarily in other cases explanations are given why there are departures in any considerable magnitude in the number of people on the pay roll.

I will tell you at a different time my own personal observation of the detail which is back of these records that are presented to the executive committee, where we get into each individual person who changes his status in any way, in which examination we see the individual, not personally but through the report that is presented, as to why he is leaving, why his status is changing in any way.

4074 In exceptional cases where the officers think that they need the advice of the executive committee some of them are taken to the executive committee for counsel and advice.

In addition to the foregoing matters there are a number of important subjects which come before the committee at irregular intervals. Among these is the determination of the necessity of installing additional power plants. Just recently that subject came home with a bang. We had set aside cash to finish the Commerce Street power plant extension which you have heard about and we thought that no

new power plant extensions would be required, even to be thought about, at least until sometime in 1941, but the

—1,832—

advent of the war and the effect on the preparedness program of this country made it essential to give consideration to our meeting without question the known and even the doubtful needs of industry for power in order to carry on preparedness.

We had a discussion down at the New York office, along with the other officers of several North American companies—— 4076

Q. North American subsidiaries? A. —subsidiaries, in which each one put his cards on the table about the power problems that he had. We got considerable information on the various views as to how much additional power would be required for preparedness purposes, and it was quite interesting to note that except in cases where there were explainable differences the amount of power estimated to be required for preparedness purposes was fairly close together in several subsidiaries of the North American 4077 Company which are in industrial centers.

We came away from that meeting after getting the intimate views of what was likely to happen in the preparedness field, with a very definite feeling that we ought to reconsider our previous intentions not to install any more power plant capacity in the immediate future.

That culminated in a very careful study covering the installation of an 80,000 kilowatt unit known as Port Washington No. 2, at Port Washington, Wisconsin.

—1,833—

When I say, as I did, that there are a number of rather important and irregularly occurring subjects before the executive committee, I mention this as one of the very important ones of that type.

We also have at least once a year another extremely important operation which is supervised by the executive committee, and that is passing on the sum total and also in general the details of the construction budgets and the operating budgets of the company.

4079 There is prepared by each department that does construction work or has occasion to make any kind of expenditures, a budget showing by each individual item of construction the name of it, the amount that it is expected to cost, and in an accompanying outline the particular reason why the department head thinks that that is a necessary piece of construction to be put in during the coming year.

That is, shortly we will begin preparation of the construction budget for the entire year of 1941. As a matter of fact the underlying divisions and departments are working on it now, but we will have it ready sometime in November. We,
4080 of course, know further ahead than that just what we ought to do about the large and important expenditures for power plants which I have previously described to you.

The executive committee reviews, not in great detail, each underlying individual item, but it does rely on the judgment of the general executive officers whose functions and names I

will describe to you later, as to the necessity for these individual expenditures. It is, however, very deeply concerned with the total amount of money to be spent as covered by the budget and with the means of getting that money

for such expense, and if no immediate efficient method of getting the needed amount appears to the executive committee, the budget is sent back with instructions that some substitute method that might defer without endangering the service, the different construction items, be found.

That just very briefly indicates what the executive committee does on the construction budget. It does not mean that the departments are thereupon authorized to spend, without further supervision, the money required to do all this construction work, and there may be occasion a little later to 4082 go into that in connection with what are the duties of these general executive officers which were mentioned.

We go through somewhat the same general supervisory review of what we call the operating budget. Probably there is no document that is prepared by our company that requires such detailed research, such prediction in advance, of every single movement and operation that costs money, that this one does. Our detailed operating budget is made up by all of the individual primary, secondary, and every other account that appears on the books. In other words, if Account 145 is the number which is used on the charge account for 4083 premises expenses, then someone familiar with the nature

—1,835—

of the charges that go to that account, with the possibility of improvement in the account, by reducing it, of course, figures out approximately the budget for that account for the coming year.

There are literally thousands of those accounts. They are reviewed first by the department heads after the men as far down the line as possible give their ideas on what the necessary expenditures for good service should be. Those budgets

are then passed to the vice president in charge of the particular department. They then come to the general manager as one of the general executive officers and in this process there may be a great many changes made.

When they finally come to the executive committee they are supposed to be formed, and are formed so as to represent approximately the revenues we expect to collect and the disposition of those revenues by classes of services, by functions of the business, such as electric and heating.

4085 The executive committee then approves the final operating budget and it may not be changed without the approval of the executive committee.

I think that those are fair examples of the irregularly occurring important items that come before the executive committee. Now, it might be said that in general the executive committee is in constant and, I think, most intimate touch with the affairs of this business. They are in touch with all of the important decisions of management and have

—1,836—

really approved all of them except those that are naturally
4086 left with the officers of the company in their discretion, but the discretion even is handed down. The officers understand the limits in which that discretion may operate.

The minutes of the executive committee, I know from experience because I have been the secretary, are usually dictated within the hour after the meeting has finished, and are distributed promptly, usually the next day, to all of the directors of the company.

The distribution of these minutes to the members of the board of directors naturally does not constitute ratification of those minutes, but they know what is going on in advance.

The five local directors in Milwaukee, including the four who constitute the executive committee, naturally have the very close view of the property. From the minutes that are made available to the other four directors they can ascertain and do ascertain what is going on. Ratification, if they are approved by the board of directors, occurs at one of the meetings which I referred to as occurring a minimum of four times a year.

I think in substance, and in conclusion on this important topic of what the executive committee really does, we can say 4088 that it does everything that a small board of directors, all of whom are very close to the business, most of whom work in it, could possibly do for the interests of the customers and others who put their money in the business.

—1,837—

Q. In substance, you would say that the executive committee is in active charge of the management of the company? A. That is true.

Mr. Browning: This is a good time to interrupt.

The Examiner: All right. We will recess until two o'clock this afternoon. 4089

(Whereupon, at 12:35 o'clock the hearing recessed, to reconvene at 2:00 p. m.)

4090 *Gould W. Van Derzee—By Respondents—Direct*

AFTERNOON SESSION

(Whereupon, at 2:00 o'clock p. m. the hearing reconvened.)

The Examiner: You may proceed.

Whereupon GOULD W. VAN DERZEE resumed the stand and testified further as follows:

4091 *Direct Examination by Mr. Browning (Continued):*

Q. Who are the general executive officers of Wisconsin Electric Power Company? A. The two general executive officers—that is, the officers whose duties extend over all the activities of the company are the president, Mr. Way, and the vice president and general manager, Mr. Van Derzee.

They exercise general supervision over all of the other officers of the business and over all phases of the business subject to the control of the Board of Directors and the Executive Committee.

4092 They have a great many things to do, naturally, that executive officers are supposed to do. Naturally, someone has to bring reports and ideas and suggestions to the Executive Committee and it is generally up to the general executive officers just enumerated to bring to the Executive Committee information under all of the topics of the agenda which I previously described at some length.

—1,839—

In addition to that, these officers have to carry out the orders that are given the general executive officers by the Executive Committee.

They have to execute them in the field and in connection with such execution and with the other problems that confront the general executive officers they have a number of problems, a few of which I will relate.

It is advisable in any corporation to have a ready means of getting together all of the officers and department heads at stated intervals in order to discuss with them policies of the company that have been laid down by the Executive Committee and as important to get from the men more or less down the line the ideas that they have on how to run 4094
the business.

No one group of general executive officers or on the Executive Committee can hope to run a business successfully without that kind of consideration and cooperation with the men as far down the line as possible.

We have what is called a management staff meeting. The management staff has a membership consisting of the general executive officers, all the other officers of the company, all of the department heads of the company.

As I recollect it, a full meeting of that staff, which is held in the Board Room of the company around a long table, 4095
consists of about twenty-two to twenty-four persons.

In order to take up as little time as possible away from

active work, we meet at 12:30 on the second and the last Wednesdays of each month. A sandwich and a piece of pie are served so that we don't have to go out to dinner.

About 1:00 o'clock the meeting of the business begins. I think it is well to picture the position of the general executive officers as in between the Executive Committee on one hand, which is above them, and the managements' staff, with

which they meet at intervals which is, so to speak, below them, in corporate relationships only, and the flow of authority down from the Executive Committee through the general officers to the members of the staff.

There are, naturally, many meetings with the individual members of the managements' staff daily, but these meetings of which I speak are policy meetings, designed to get everybody uniformly behind an idea and to dig up ideas from the group that the general executive officers may wish to put
4097 into practice.

Several days before a meeting of the managements' staff is scheduled, a notice is sent out by a secretary of this meeting to all the members of the staff, asking them to contribute articles of information, detail matters that they wish to have brought up at the meeting, and otherwise express themselves in writing so as to facilitate an orderly discussion of what is to come before the meeting.

The secretary takes this information, puts it together in

what are called news notes. Ordinarily, you might call them
4098 agenda except they aren't compiled like an agenda is compiled. They are a collection of ideas such as I have described.

I want to tell you just a little bit about a sample meeting because I think it is important that you know how this local group of officers and department heads really functions, the things they talk about.

You can judge something of the earnestness of those who are carrying on the business by not only the things they do, but the things they talk about.

One of the first things that usually appears in the news notes relates to employment matters. To be specific, in the

news notes of August 14, we find such things as these enumerated, and this was prepared by the men who have charge of the employment activities.

The news notes show that monthly survey conducted by the public employment office indicates 42,000 persons employed as of August 1 this year, compared with 41,000—I am giving round figures—last year.

Now, that is of information to us for the specific group this employment covers, because it indicates the ups and 4100
downs of industry.

Q. Employed by whom, Mr. Van Derzee? A. I think I mentioned that.

(Discussion off the record.)

—1,842—

A. I mentioned that this referred to the specific group but I did not state that it was a group of forty or more manufacturers who contributed information monthly to the general employment office.

We have detail which shows the particular industries in which there are increases and those in which there are de- 4101
creases. Those things have some significance to people around the table. We report the number of new registrations for unemployment benefit claims to indicate the status of employment in the district, and then we have our own employment record which shows the number of employees entering the company by departments for the month, the number who left.

Department heads are called upon to describe the reasons for unusual departures from normal employment in any de-

4102 partment and I think this morning I mentioned the employment of a number of students.

It so happens that in these news notes which I am describing of August 14, this particular department, the electric distribution department, had forty-two placements, of which thirty-eight are temporary, and those were the students that I was talking about this morning.

There is only one left. The reasons for terminations, discharges, if any, are given, and they are usually discussed.

4103 We then have a record of the employees entering and leaving the services of The Milwaukee Electric Railway and Transport Company and I didn't say before but should have

said that this managements' staff meeting is a meeting of all of the officers and department heads of both Wisconsin Electric Power Company and The Milwaukee Electric Railway and Transport Company.

Q. Does it include department heads of any other company? A. It doesn't regularly include department heads of other companies primarily because of the distance, but we

4104 have other inter-company meetings from time to time which take the place of those.

The operations of these two companies are extremely intimately involved and when the separation was made from a corporate standpoint in October, 1938, whereby the transportation activities are transferred to so-called Transport Company, we kept right on with the same meetings of all the people that were formerly the department heads and officers of the one company—that is, it is operated about the same as before, but has two names.

I don't mean to say that there has been no change in the corporate offices—there have—but the fundamental principles that guide the company in operation are still the fundamental principles of operation for each company.

We have under this heading of employment also a record of employees that are transferred. If, for some reason, an employee must leave one of the company's departments, we try, through our central employment department which operates for both companies, to find a job for him in some other

branch of our business.

If they have been trained in the business which we usually try to keep them in, it is foolish not to try to find a place for them elsewhere because they are better employees, as a rule, than getting someone on the outside who knows nothing about the business, so we pay particular attention to transferring employees from one department to another in preference to lay-offs and discharges.

We next come to something that is reported in each of these meetings—that is, the kilowatt hour output of Wisconsin-Michigan group of properties, and for Wisconsin 4107
Electric Power Company, alone.

For example, for the two weeks ending August 3, 1940, the output of the system of Wisconsin Electric Power Company, alone, including the sales of dump steam power, which are very necessary for Wisconsin Michigan Power Company, were up 9 per cent., whereas, the corresponding figure for the entire system was 12½ per cent.

Q. By the entire system you mean to include Wisconsin Michigan Power Company and Wisconsin Gas & Electric

Company? A. That is right. Over what we call the service area.

Q. All right. A. Here appears in the news notes, probably contributed by the electric distribution department, the statement that the third from the last customer to use 25-cycle

—1,845—

service on the system was practically changed over to 60-cycle service leaving just two customers still taking 25-cycle service.

4109 Years ago we had 25-cycle service over a wide area. This third from the last customer happened to be the Cutler-Hammer Manufacturing Company.

The only customers that are now left, effective after this change, are service to the Chicago, North Shore & Milwaukee Railroad which operates an interurban line between Chicago and Milwaukee, and the Stratton Grain Elevator.

Inasmuch as we have a frequency changer at the First Street Sub-station, which can be used in the reverse from the old direction—that is, it can be used to generate 25-cycle service, running off the 60-cycle end, we do not have to run

4110 25-cycle generators at the Commerce Street Power Plant for this purpose except in cases of emergency.

Now, we come to that phase of the managements' staff meeting where a report from the purchasing agent comes up and the purchasing agent reports on the iron and steel market, the copper market, the gasoline market, the scrap market, and any other market that anyone is interested in, that the company may be particularly interested in.

Just about this time we had quite a spirited discussion on whether it was the time to sell several thousand tons of old steel rails which Wisconsin Electric Power Company had

accumulated incident to abandonment of interurban railway

—1,846—

operations, where it owned the rails and leased them to the Transport Company.

There is also a substantial amount of scrap of this type that accumulates from the operations of the Transport Company of its own rail facilities. We have to take out special work and replace it, take up sections of rails and replace them, so we always have considerable scrap on hand.

We get the advice of those who are presumed to know. 4112
We know the trend of the market generally. While we haven't sold this steel scrap, I am inclined that we won't keep it too long. Too many opportunities are lost trying to get the last nickel.

From Mr. Dornbrook, whose first name is Fred, we have a report on the Commerce Street new installation which gives a lot of things that probably aren't interesting to outsiders, but to the staff, it is interesting to know that 40 per cent. of the high-pressure piping from the boiler to the turbine is in, 25 per cent. of the feed water piping is installed, that air compressors are grouted in, and equipment for the new black- 4113
smith shop is installed.

We have to have facilities adjacent to these modern power plants to take care of breakdowns and give prompt service to our customers and are putting in modern equipment for that purpose in connection with the large installation at Commerce Street consisting of a 35,000 kilowatt extraction turbine.

—1,847—

Here follows Mr. Dornbrook's discussion of the East Wells Street high-pressure plant and he brings to our atten-

4114

tion certain trouble that he has had taking down the rotor of the 13,700 kilowatt machine. How soon he expects to get it back in, those things are of interest not only to the management, but they are of interest to the sales department in knowing that the steam heating system will start efficiently at a certain time, that adequate capacity will be available, particularly in these times when we have a 30,000 kilowatt machine out of service at the Lakeside Plant due to a burned out rotor, and we are also having the annual or semi-annual

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overhauling of the Port Washington plant which means that another 80,000 kilowatt unit is out. So it becomes important to have everybody know the status of all of the operating machines.

We discuss the coal stock. Whereas the average householder deals in five, ten or twenty tons of coal, we have to deal in great quantities of coal, running up into hundreds of thousands of tons, and this particular discussion of the coal stock this week related to how many tons of coal we had had delivered on our contracts that we expected to get in before the price increase took effect under the government control.

4116

Now, comes Mr. Coffin, with a discussion of sales matters in which everyone is interested. He talks about the thirty large industrial customers that I mentioned to you this morning and what he sees in the information on that group.

—1,848—

He indicates that eight large steel foundries show a material increase over the preceding week and wonders if that is the start of a little boom in Milwaukee, because foundries are known to start up first.

Milwaukee is one of the great electric steel centers of this country, and that is true because when there weren't any

adequate usable steel furnaces, our company built some of the first ones, and by cooperative measures got the foundries to use electricity for the melting of steel and the effect of that is now shown in the large sales of kilowatt hours through this source.

I want to elaborate on that a little later when we talk about a certain affiliate that we have, known as the Hevi-Duty Electric Company which picked up that job and started the desig.. and building of other types of current-consuming devices, electric furnaces primarily, that we couldn't get 4118
large manufacturers to build and guarantee at the time we went into that business.

Sometimes, in these new notes, we talk about individual companies and when a large company like the A. O. Smith Company, which is one of our largest customers, shuts down for a day or two for inventory, that is a couple of days loss of a lot of kilowatt hours and the sales manager is probably reporting that so we will know, if we see a little dent, what that is.

He puts in also information about the fact that some of
—1,849— 4119
our customers have received orders. He has heard that the A. O. Smith Company has received a large order for pipe. That is prospective business being put away in our mind to sell kilowatt hours for.

Just as an interesting sidelight, and I know I am rambling a good deal on this to give you a broad picture of the business, this little Hevi-Duty Electric Company built the world's largest electric furnace at the request of the A. O. Smith Corporation with a capacity of 6,000 kilowatts on one connection of the windings and 12,000 on another.

4120 That one furnace at that time, when operating regularly, twenty-four hours a day, was capable of using as many kilowatt hours as all of the residence customers in the City of Milwaukee.

There is a report here that anticipating increased business, Milwaukee foundries were contemplating increasing their plants and since then we have found out that Milwaukee will probably receive quite a substantial amount of preparedness business that will require considerable elec-
4121 tricity, and that our foresight, if you can call it that, in deciding to put in Port Washington No. 2 prior to the time that we could see actually the complete method of financing, probably was justified.

Then follows descriptions by Mr. Coffin, our sales manager, of various new jobs of electric power installations, and he concludes by giving a comparison to the staff of the record of sales appliances from January 1 to the end of the previous month.

—1,850—

Just a few of them may be of interest to indicate that we
4122 are somewhat ahead of last year in some important items. Electric ranges, 1,732 compared with 1,523 last year. The quota on electric ranges for the year is 3,500 and we expect to meet it because we sell more of them at the end of the year than in the summer.

Electric water heaters, 799 compared with 568. Our quota is 1,500. We may have difficulty in meeting that. We are putting on extra pressure.

Refrigerators—that is, sales just off of our own floor and we don't attempt to do but a very small part of the business —955 compared with 785.

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Roasters and casseroles, 1,209 compared with 718. The roaster, as I think was intimated this morning, is one of the devices which introduces electric cooking to the home. It is an extremely interesting device to almost any woman that has tried it and I believe that in the City of Milwaukee, somewhere between, I would say, a third and a half of the customers have them, if not more.

(Discussion off the record.)

4124

A. Better sight lamps, 2,198 compared with 2,112. That shows a decrease in the company's sales of better sight lamps. The reason is that we don't have to put the emphasis on those things because they are off-the-shelf articles. You can buy them in hundreds of outlets and we much prefer to have other people do our selling for us on things that they push.

—1,851—

Now, from the head of the plant engineering department, we have a report on the work he is doing underpinning the foundations of the Public Service Building, installing some new equipment in Ann's Electric Grill in our building, work on installation of air-conditioning systems of which we are putting in two in the building this year, and reports on his part of the building construction work as distinguished from the machinery at the Commerce Street Power Plant and at the other points on the system.

4125

He reports that the steel structure for the 28th Street Sub-station is up, and the progress on the 96th Street Sub-station, that the new bus storage building addition at the Fiebrantz Avenue car station in progressing in accordance with the schedule. There is a case where Mr. Luber, who has

this plant engineering department, does building drafting for the building requirements of the Transport Company and makes it unnecessary to have the duplicate organization that might otherwise be required.

He reports on the Lisbon Avenue Sub-station, a small sub-station out near the limits of Milwaukee County where the load has grown so rapidly that we have to put in additional feeders and that requires additional buildings.

4127 Here is a report from the department head of the Transport Company, Mr. Archambault. Mr. Archambault is engineer of Way and Structures and he has charge of installa-

tion of tracks, road-beds. Maintenance and construction of the signal system is under his direction, and all of this track that is being removed on the abandonment of railway operations is taken care of and disposed of as scrap.

He reports on various work he is doing and most important of the items is probably the installation of the duplicate overhead trolley required for trolley buses. That is

4128 a Transport Company operation. They buy the new trolley buses; they construct the overhead trolley as well as constructing, operating and maintaining the regular street car operation.

We haven't said a great deal about trolley buses. I think we have a place to say that a little later. It is a very interesting modern development of transportation in metropolitan centers.

Mr. Archambault of the Transport Company reports that he is just constructing a turn-out and track facility necessary in the disposal of ashes at the electric company's Lake-

side Power plant. Not being in the business of putting down tracks, obviously we go to the best place to have that work done and that is our affiliate transport company.

Then follows a discussion of the abandonment of the Oconomowoc-Watertown line. That is a stretch of about eleven miles of track that the Public Service Commission has permitted us to abandon on showing that it could not be maintained economically and in the public interest.

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Our assistant treasurer and controller, Mr. Bohl, reports on passenger revenues by various divisions of the system, electric service revenues, the combined increase in electric service and passenger revenues which is a hangover from the time that we had the one company, but it is still just as interesting to us as if the companies were together as of old, because the Transport Company is a direct subsidiary and, finally, these particular news notes which are not as complete as some, wind up with a discussion of two or three large delinquent service accounts.

Usually that brings up various questions of why they are 4131
delinquent, what the chances of getting the money are, extent of the pressure that we ought to put upon the collection of such accounts with due regard for the interests of our company and possible continuance or non-continuance of the delinquent.

And so these meetings go. Next time, probably, quite a different set of things will come before the general executive officers and the staff and these minutes do not pretend to record everything that occurs, but we get a great deal of advantage out of these meetings and carry many things

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from these meetings to the Executive Committee and actually carry out many things that we don't have to go to the Executive Committee for permission to carry out.

When I say, "we," I mean the general executive officers

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who get the great benefit from these meetings.

All of that discussion was around the subject of the management of staff meetings. I was in the process of telling you just what officers of the company do—that is, the gen-

4133 eral executive officers.

It seems to me that I have covered a great many things because it is the general executive officers that have to bring this wide range of subjects before the Executive Committee and in merely reciting the things that come up in the management staff meeting you have got some picture of the things that are of interest to the general executive officers and indicate, incidentally, some of their duties in connection therewith. But we have some other duties and I will endeavor to go through those without too great detail.

4134 We have many relations with municipalities and regulatory commissions which have been discussed somewhat before. We have to take the original action on these things. We have to decide just what we are going to do about answering an extensive rate complaint if we have one.

It is up to the general executive officers to receive all of these applications to commissions that are prepared by others in the company, approve the final form of them and sign them. When the orders come in, they come to the general executive officers as a rule, at least finally, and we have

to initiate placing those in effect where the initiation involves matters of company policy.

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It was up to the general executive officers in January, 1938, when the new classification of accounts was adopted by the Public Service Commission, to decide what the company was going to do about the matter of depreciation.

The orders that came out, as I recollect it, said that straight-line depreciation would be the order of the day unless within thirty days the company presents to the Com- 4136
mission a statement of the type and method of depreciation that it considers the best for its own operations.

We had to conclude, as we did in our case, that sinking fund depreciation with a 3½ per cent. interest charge on reserve balances was the proper thing in order to have continuity in the form of depreciation methods which had been employed for many years and by order of the Public Service Commission of Wisconsin.

That proceeding involved hearings before the Public Service Commission, many informal conferences, preparation of very substantial amounts of information for the Commis- 4137
sion, before the Commission was willing to issue the order, which finally came down and which I referred to this morning.

The general executive officers are responsible for initiating, with the assistance of power plant advisors, plans for installing additional capacity and it is their views on these matters that are brought before the Executive Committee in the particular instance which resulted in the approval

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of the Executive Committee for Port Washington No. 2.

We are confronted from time to time with determining matters of policy with respect to rules that are initiated by the Public Service Commission and these matters are usually handled by people under the direction of the general executive officers who are familiar with matters of that kind.

In considering our relations with municipalities, we have many types of contacts that necessitate action by the general executive officers. These relate to decisions of the Executive Committee on matters which are brought before them under
4139 the heading of "Municipal Matters" at the executive meetings, and many other actions that do not come before them, included among which are decisions on changing types of street lighting in a municipality, removal of poles at the request of the community, either because they want the poles off the streets or in the alleys or underground or because they are paving or for some other reason.

Also there are questions of zoning which come before the general executive officers which arise in connection with municipal matters. The general executive officers have their hands full on policy matters relating to taxes. There are
4140 just about as many problems that come up on the tax situation as you can think of.

Our largest problem is when the State sends us a little

note sometime late in the spring, that we have had a temporary assessment of very many millions of dollars on our property, or that the general state rate has gone up so much, that the tax bill will be of the order of several million dollars. It is up to the general executive officers to arrange for proper representation and the policy which will guide

our representation in the hearing before the State Tax Department on the amount of the assessment.

There are many problems that call for a decision of general executive officers in connection with Federal Income Taxes and State Income Taxes. Sometimes these are matters which involve a decision on "shall we pay several hundred thousand dollars in the settlement of back taxes or shall we proceed for review before higher authority."

They are matters that require insight into the business, judgment. We get all the advice we can on these matters. 4142
The other officers of the company are expert in tax matters. We call on them. But in telling about the general executive officers, I am doing this—I want to say reluctantly—because everyone recognizes that the general executive officers don't do everything.

We have many other officers whose duties will be described later. I want you to know that we give all due credit to the very fine staff that we have, and that this is just section 1 of the description of what officers do.

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In addition to ad valorem and Federal Income and State Income Taxes, we have some dozen other taxes on various operations of the company, without the horde of indirect taxes on which occasional matters of policy arise.

I have mentioned just indirectly the question of labor and have a good many problems of general executive officers that relate to the matter of labor. These officers review all of the contracts which are the results of preliminary negotiations by our labor representatives and those of the unions, and really have to finally pass on whether the company is willing

to do certain things and can do them, or whether it is better to take some other course.

I don't mean by "some other course," one that leads to discontinuance of service, but some other review of the situation. It so happens that the general manager of the company is named in the labor agreements as the "Court of Last Appeal" on grievances prior to arbitration.

It is quite natural, then, that we should look at these major items of policy very carefully in the light of our ex-
4145 perience, what is fair to the men, and that we shouldn't be precipitous.

I would rather discuss the matter of labor relations a little more fully under the next subject which, is what the general executive officers have to do with employee relations. I think that it can be said very definitely that not only the general executive officers, but all the other officers of the

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company appreciate the great importance that proper relationship plays between the company and its employees, and that these relationships be maintained at the very highest
4146 possible level.

Poor employee relationships mean internal discord and can very rapidly reflect in poor public relations. We endeavor, through the medium of the management's staff, to instill into officers and department heads at least what we see about the importance of employee relations and the proper dealing with labor.

We can not overemphasize how important we think that is. Probably all of this heads up in the general subject of Wages and Hours, working conditions, vacation and sick

leave, extra compensation for additional effort, proper recognition of men personally who do a good job as distinguished from just giving them a little raise, and our consideration of these problems has caused us to think about two very important things.

One of these is job specifications, the other is employee rating. We are endeavoring to find the very best way of rating an employee. We would like to know what all his capabilities are.

We have, of course, a rather complete history of each one, 4148
but we wish to go further and to keep an unobjectionable record of the important, good things that the employee does and also a record of the various things in which he is not so proficient.

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It is possible to find a job for almost any type of intellect, if you know just what that person is capable of doing. Our thinking, so far, has developed a rather temporary form of report which is designed to include all of the important things that I have mentioned.

It is also designed to provide a review at least once a year 4149
of everybody in the company by his immediate supervisor and by the department head, and we think that before any final records or notations are put away on John Smith's card, that this should be done with the full approval of the department head working with the man who has worked with John, so that either because of favoritism or bias, the department head will act as a brake on any entries that might in any way react to the disadvantage of John Smith in the years to come when his immediate supervisor or even the department head is not there to review it.

4150 Now, we expect to develop a record on these cards as time goes along which may read something like this:

"John is pretty good in this job, but he seems to have a natural inclination for detail work in the record department;" or "John seems to be wonderful material for some executive position some day;" or any one of a number of different statements of that type.

It may be a long time before we can get him a position in the record department or he may become an executive, but if
4151 we can get the composite judgment of all the people that

worked with him down through the years and then an executive position opens up by the death of some one, that has to be filled promptly, we don't get a situation where somebody sits down and says, "This fellow ought to be all right to fill that job, I have known him a long time"; somebody else says, "No, he won't do at all; he hasn't the right color hair for that job."

What we want is to be able to turn to these cards and find that experience has said that when an executive posi-
4152 tion for John Smith opens up, John is the man and we don't have to waste any time because we know the judgment is good. That is just an example of what we have been working on for a year or so in trying to get this system going.

It is a long way from perfect, but it is one of the very important things, I think, in employee relations. I think, if a man way down in a menial position—not menial because of the character of the work, but because of, say, the very low pay that he has—thinks that once a year somebody takes a look at him and puts down on a card what they

think of him, and he has confidence that what is on that card is a fair mirror of himself, he is going to be a lot better employee. He is going to think he has a place some day higher up in the company.

I know I would feel that way if I were the employee.

Then we come to the second thing that we want to do that I think has a great bearing on employee relations, and that is job specifications, and we have gone a good deal

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further with that than we have with the other matter. 4154

What does an employee do? I doubt if any department head could sit down and tell exactly what every one of his employees does, and when you put the problem up to the employee, he sometimes is put to it to tell you everything that he does, and it is not peculiar to those employees.

It is right here with the general executive officer as you may have observed in my difficulties in telling you what I do. But in this matter of job specifications, we have a committee consisting of rather disinterested people representative of the educational department, another representative of the research department, a representative of the de- 4155
partment in which the man to be rated comes from.

The first thing that is done in the case of John Doe who wants to be rated, is that he is given a form to fill out in his own words, exactly everything that he does, and then presumably everything is down that he does do, but we find that it is necessary to add our own knowledge of what he does because he is not always complete in his own specifications.

The process of job specifications from that point on is to evaluate all of the different components of this particular

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job and perhaps I shouldn't get John Doe too closely related to the job specification because it is carried out more or less independently of John Doe as far as the job specification is concerned.

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It is when we want to rate the man who thinks he is working under that specification that we have him put down his individual characteristics, and it is from his statements of what he thinks he does and what the department head says
4157 are the characteristics of the job, that we then proceed to evaluate these various operations and there are a great number of them.

They go over the full field of manual work, psychological requirements, sales ability, tact—forty or more of those different characteristics—and we say, "If this man has a job that requires considerable perception and quickness, that that is rated at so much; if it requires certain dexterity and agility of fingers, that is a matter that is rated in so many points; if he has to meet customers, and it is hard to get
4158 people to do this particular job, the ability to satisfactorily meet customers is given a certain rating," and so on down until we have rated and appraised each of the different items.

The problem is to apply a value to the accumulated points that we have given to him so as to get a salary in dollars and cents, and this rating per point has been determined by breaking down a known job which is relatively easy to analyze, and where we know that the pay is right up to market, and determining from that what the value is of similar points in the specifications for a different job.

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Well, without trying to give you all the details, I can say that one of our unions—we have four of them—thought this was so good that they stole the idea with our full permission and wrote an article on it in their monthly magazine, of how they were going to answer complaints about people who think they are not rated correctly in the future, and we have done quite a little work along those lines.

I believe that it will take a lot of guessing out of the determination of the proper salaries for certain work. It should have a very profound effect on the satisfaction of the 4160
employee with his final rating.

After all, the employee doesn't have to stay where he is rated, he can pull himself up by his own efforts, and our philosophy is that it is not the proper thing to do to raise wages generally so as to cover the complaint of a dissatisfied minority, because the increase extends over the whole company.

It is better to try to reason with those men, that for the work they are doing, they are getting a proper wage scale, and that it lies within themselves to study, to look for opportunities and to get better pay by qualifying themselves to 4161
get that pay.

The general executive officers have something to do with public relations. Public relations are probably everybody's job. Not to spend too much time on that subject, but yet to

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indicate the great importance that all of the officers think it plays in our business, I would say that we realize that perhaps first and foremost, it is necessary for the companies to give good service at proper rates; reasonable rates they must be.

4162 It has been said that the customer, if he has good service that is continuous and no outages, and that he pays reasonable sums for it, really isn't very much interested in the general problems of the company as to how we got that way. But I don't think that we can assume that the furthering of public relations stops with giving good service at reasonable rates.

We could do that and we would have bad public relations if we said to Community Fund, "No, we are not interested
4163 in that aspect; we are giving good service at reasonable rates. That is all the public can expect."

We would not be furthering good public relations by merely giving good service at reasonable rates if we said to the committee which annually comes to us in connection with the mid-summer festival, "No, that just costs us money; we have to put on a lot of street cars and everybody uses a pass anyway, so we don't get any money out of that." We can't say that and have good public relations even though we give good service at reasonable rates.

The point is that we have to do a lot of things, some of
4164 which are time-consuming, some of which are reasonably expensive, some of which we may feel we could possibly get

along without. But it is a part of the job of all industry to take its reasonable share in the community in doing these things that the general public likes to see done and that have to be done by somebody.

When I say that general executive officers, within the limits of their capacity, appreciate fully the importance of public relations, we think in terms of all of these matters that I have just discussed with you.

The general executive officers of the company are responsible for building up the supervisory staffs of the other officers under them. Only as they succeed in doing that will their jobs be lighter and the service better. No one man or group of men and no general executive officers can hope to do all the detail work that goes on in a large corporation. That is one of the most short-sighted policies that the executive officers could adopt would be to unnecessarily skimp on people who are really able to do things, who work for them.

We believe that positions should be adequately manned; 4166
we believe in hard work; we do work hard. I think we have a very good and loyal staff.

In connection with a statement concerning this staff, you will find that they stick with us. Our record will show that there have been very good accomplishments and I believe that under the guidance of Mr. Way, who has remarkable insight into men, that we have succeeded in getting, building up,

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an executive and supervisory staff that has helped solve a lot of our problems, and if those men are good, they pass on that quality down through the line as far as you go. 4167

That is the job that we tell them they must do.

Getting to more prosaic subjects as to what the general executive officers do, we come to the question of purchasing, and while the detailed purchases of materials and supplies are not reviewed except as they are a component part of an approved budget, we do go over the purchases of coal, wire, machinery, and many other things.

I, personally, sign contracts after they have been executed by the department heads and officers doing the work. For example, just before leaving, one of the items required

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for Port Washington No. 2, which we thought we ought to get early and put in even in advance of the plant, were two traveling screens.

The plant will not be up for two or three years, but the officers in the power plant department said, "Why not buy these now since we are committed to it. They are cheaper now and we can put them in and we will have a better area for flow of water through the screens than we have now, when, sometimes, things back up or get trash on the racks,
4169 or sometimes thousands of fish come in."

If you have a limited screen area, it is just the more difficult to keep the fish off, although now we have somewhat

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automatic means of doing that. I have seen fish on the floor of the condenser room knee deep when at certain times of the years these hordes of fish come in the intake, through the trash racks and up on to the screens to the point where if we hadn't been able to use emergency methods to get these fish off, the plant would have had to shut down.

It was then we had to devise these semi-automatic meth-
4170 ods of removing fish. So you see we get into a lot of strange things in this business.

The general executive officers have much to do with construction and development. I think I could talk—but will not—for two hours, on the many contributions that our president has made in his diligent search for improvements in the art of electric generation and transmission, and even in the field of street railway operations, the stories are most interesting.

I know that he wouldn't take full credit for them. He would say, as he usually does, that the boys down the line

got the ideas and he just helped along with the fortitude, because it does take fortitude to do as he did in 1920—spend millions of dollars to put in powdered fuel in the first installation in the world, when all the technical societies were stating that it couldn't be done.

I remember, of my own knowledge, that two years after that plant was in and operating with remarkable efficiency, the engineering societies were still debating that it wouldn't

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work.

Then he invented the articulated train process of taking two whole street cars that looked pretty bad, remodeling them and putting a single truck under two of them and a vestibule connecting so that they would carry large numbers of people in the rush hours.

He has been instrumental, together with the officers, in developing a good many splendid ideas and I merely mention a few and very briefly in order to say something on this important topic of what the general executive officers do in the way of construction and development of the business, 4173 and it is really more far-reaching than our own business because I ask you to consider how many utilities in the country now use powdered fuel as a result of our early experiments and developments, what the millions of dollars of saving have been to customers in this country.

The subject of financial matters, which have to be handled by the general executive officers, is a week-end topic and I think, perhaps, it would be best to say just at the moment that the general executive officers naturally have to be very busy on questions of finance, irrespective of how much help

4174 they get from North American Company, which they do.

We have pretty well covered, I think, the things that Mr. Schmidtman has told you about promotion of our business and in my brief comments on the same subject this morning, what we are striving for in the way of increasing

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the business.

Undoubtedly he has told you about our experiments to make the general public conscious of the existence of electric
4175 service, by the free electricity offer that we had in 1934, and I believe in 1935.

Being very close to that and bearing about the same relation to it that Mr. Way did powdered fuel, I looked a good deal askance at advertising that customers could use all the electricity that they wanted in certain months following the month of March for the amount that they paid in the month of March.

We got some very remarkable responses, but everybody knew about electricity when we got through, and we made money, and we accomplished a separation, an increase, in
4176 the use of electric service by residences, compared with that of previous years, which was quite noticeable—that is, in a nest of curves which showed the gradual increase from year to year up to 1934. When this was put in, there was a permanent hike in the thing. One lady told me that she had an electric roaster and she was heating the baby's bath water in it and bathing him in it.

I heard of an ingenious gentleman who got coils of copper wire and wound it around the gas water heater and then proceeded to heat the water with electricity that normally should have been heated by gas.

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Those things aren't said to indicate practices that we approve of or to represent the purposes of this experiment, but more to indicate to you that the extent to which people gathered the idea that there was a company selling electricity in Milwaukee was tremendous.

Then we followed with the ten-for-one plan, which Mr. Schmidtman probably described, and are continuing to get, I think, remarkable results.

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The most remarkable thing about it is that this plan so operates, as he told you, namely, you can get 100 per cent. increase in the use of service for a 10 per cent. increase in the bill. While you are getting that saving in electrical energy for a period of four or five years, if you don't increase your use after the first rise, you are helping to pay the instalments on the piece of apparatus because of the increase in the use of service through this saving in electricity, and the dealers are very enthusiastic about it.

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While it has been extended on a year-to-year basis and expires, I think, by limitation in July, 1941, we wouldn't dare not go out to the Commission and say we want to extend this thing and we wouldn't wish to go out and ask them not to extend it.

There were 118,000 people in the month of August that used 25 per cent. more kilowatt hours than they did in the preceding August under this plan. On the increased energy, we received an average rate per kilowatt hour of 1.44 cents.

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I think I am prepared to drop the general executive officers.

4180 *Gould W. Van Derzee—By Respondents—Direct*

Mr. Browning: Could we have a short recess?

The Examiner: Yes.

(Whereupon a short recess was taken.)

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By Mr. Browning:

Q. Now, will you describe for us the operating staff of Wisconsin Electric Power Company? A. One of the principal officers who reports to the general executive officers is
4181 Mr. G. G. Post, Vice-President in charge of power. Mr. Post resides in Milwaukee. He is 58 years old and has had 34 years of service with the company. I remember George when I arrived at the University of Wisconsin as a freshman. He was an instructor and he lived at Madison at the time, and my belief is he has lived his entire life in the State.

He is responsible for the power plant electric distribution and plant engineering departments which I shall attempt to describe briefly in a few moments.

Mr. Post entered service as an electrical engineer assistant in 1906. Previous to that time his residence was in
4182 Madison where he was an instructor in the State university. He was elected to his present office on December 16, 1929.

Mr. Post is a very high grade engineer and he is active in national and local engineering circles. Under his direction are 1,436 employees. His immediate technical assistant is Mr. Carl P. John. Mr. John's place of residence is Milwaukee. He is a man 40 years old and has had 13 years of service with the company.

Mr. John does a great deal of work in connection with

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preparing preliminary reports on the advisability of going ahead with different types of power plants and generally assists Mr. Post in technical matters.

One of the principal departments under Mr. Post is the electrical distribution department and at the head of that department, which has 735 employees, is Mr. W. E. Gundlach who has the title of Chief Electrical Engineer. Mr. Gundlach lives in Whitefish Bay, a close-in suburb of Milwaukee. He is 53 years old and he has been with the company for 30 years. 4184

As Chief Electrical Engineer he is in charge of construction, operating engineering and testing divisions. Mr. Gundlach entered the services of the company in 1910 as a draftsman. He was previously engaged in attending the University of Missouri. He assumed his present duties on November 1, 1939.

There are five principal divisions of the electrical distribution department under Mr. Gundlach and the first of these is the construction division which has 303 employees and is headed by Mr. F. E. Wilterding, Superintendent of Construction. 4185

Mr. Wilterding's division has charge of construction, maintenance, and so-called installation. The construction work relates primarily to the overhead and underground lines, rural sub-stations having a capacity of less than 1,500 k. v. a., meter installations and customer sub-stations.

The most typical type of a customer sub-station is one

of a large customer buying primary power under which rate the customer provides his own transformer facilities.

4186 *Gould W. Van Derzee—By Respondents—Direct*

Mr. Wilterding also has supervision over a stores division of the electrical distribution department. The second largest division under Mr. Gundlach is known as the operating division with 282 employees under the directions of Mr. O. M. Ward, who has the title of Superintendent of Operations.

Mr. Ward lives in Milwaukee. He is age 55, and he has had 23 years of service with the company. I happen to know that he is a graduate of the University of Illinois.

4187 This division under Mr. Ward has charge of the load dispatchers, station operation, electrical trouble service and local agents. He also has charge of station construction covering sub-stations having a capacity in excess of 1,500 k. v. a., and he has charge of the construction work for the electrical end of power plants. It is also his duty to operate the record department of the electrical distribution department.

Mr. Ward is a very fine man in this field. He knows the whole subject extremely intimately and he is a very industrious worker day or night. In case of trouble you will

4188 always find him out in the field.

The third division of the electrical distribution department is the enginering division under Mr. C. D. Brown, Electrical Engineer.

Mr. Brown lives in Wauwatosa, which is another so-called

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close-in suburb of Milwaukee. Mr. Brown is 53 years old and has had 24 years of service with the company.

Mr. Brown's division passes on a great many highly technical problems. He has to do with system planning, transmission and distribution engineering, overhead and

underground station engineering, electrolysis surveys.

The fourth division of the electrical distribution department is known as the electrical testing division with 66 employees under Mr. J. E. Miller, General Foreman. In this division is done all testing of meters on customers' premises and in stations. I would like to record that the electrolysis work is done under Mr. Miller and not under Mr. Brown as previously stated.

The fifth and smallest division of the electrical distribution department is the general office division with 27 em- 4190
ployees under Mr. W. S. Wilder, and he has the position of Technical Assistant.

Mr. Wilder lives in Whitefish Bay. He is a graduate of the University of Wisconsin, 44 years old, and he, also, is a veteran in the service, having been with us 21 years.

I will describe a little later the veteran's organization, qualifications for which are 20 years of continuous service with the company.

The other major department under Mr. Post's direction is the power plant department which has 606 employees, exclu-
sive of Mr. Fred Dornbrook, Chief Engineer of Power Plants. 4191

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Mr. Dornbrook is a genius, if that term can be applied to power plant operation. He is responsible for the operation, maintenance construction and design of power plants and the heating division. He has been with the company 39 years and his age is 59, and he also is a local resident of another very close suburb which abuts Milwaukee, called Shorewood.

Engineers from all over the country consult Mr. Dornbrook on power plant matters, and he is probably the best example of a man with a very meager education who has risen

4192 to tops in his profession. Mr. Dornbrook never had the advantage of a technical education, but he went to work relatively young with the company and has come up through all of the power plants and has had a great deal to do with the successful development of high pressure steam.

He is a man who seems with respect to turbines to have almost the intuition of a woman with respect to certain things. Mr. Dornbrook will look at a turbine, listen to it, put his hand on it, and tell you just about what is the matter
4193 on the inside if there is anything the matter. Altogether, he is one of the very remarkable power plant engineers and has much to do with the very fine record of continuous operation which our companies have in the rendering of service and in the efficiency with which the kilowatt hours are generated.

Under Mr. Dornbrook are two Assistant Chief Engineers:

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Mr. J. G. Lawrenz and Mr. M. C. Drewry. Mr. Lawrenz lives in Milwaukee and his age is 46. He has been with the company some 23 years. In addition to assisting Mr. Dornbrook in certain technical matters, he has charge of the gen-
4194 eral office of the power plant department.

Mr. Drewry also lives in Milwaukee. He is age 40 and has been with the company some 16 years. Mr. Drewry, under Mr. Dornbrook, handles more of the practical operating problems, as an assistant to Mr. Dornbrook, as compared with the problems which Mr. Lawrenz handles. Mr. Drewry in his own right is a national authority on treatment of water in boilers. He has given many papers before technical societies and many times companies have come to us for information with respect to his achievements in preventing the deterioration of pipes in high pressure boilers. That is a

larger subject than it sounds like and much more important than would appear from the short time it has taken in telling about it.

Mr. Drewry has been in council with engineers of the other North American subsidiaries in connection with many matters, but directly in connection with feed water treatment.

Our largest power plant is the Lakeside Power Plant. It requires 182 employees in the power plant department to operate that plant. That number is exclusive of the number 4196
of electrical workers under Mr. Gundlach, reported on under the electrical distribution department, but the general opera-

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tion of the plant is in charge of the so-called Engineer in Charge, Mr. George Hummel.

Mr. Hummel lives in South Milwaukee, not far from the plant. His age is 58 and he has been in the service of the company 21 years.

George can almost look out the window and see if any smoke is coming out of the plant stack. That is one of the 4197
pains of existence of power plant operators, having people tell you that your stacks are smoking.

The Port Washington Power Plant, of which you have heard, has 55 employees under Harry Shaver, Engineer in Charge. Again all of these numbers of employees which I indicate as being under the Engineer in Charge are exclusive of the electrical people who operate switchboards and who are under Mr. Gundlach.

Mr. Shaver lives in Port Washington, also in sight of the smoke stack of the plant. He is 54 years old and he has

4198 been with the company 10 years. Mr. Shaver, I recollect very well, is the man who had charge of the small municipal plant that was in operation when the company built the Port Washington plant, and incidentally there it acquired the municipal distribution system and a small power plant in the city of Port Washington, and it is a fine tribute to Mr. Shaver that he could rise to the heights and become the Engineer in Charge of the world's most efficient power plant, from a very small municipal plant operation.

4199 —1,880—

It is a question of the man having it in him rather than any particular extensive training that he had.

Mr. Dornbrook also is a great developer of men to operate under. Much of the success of his various plants is due to telling the men what he knows and getting them to do it.

The Commerce Street Power Plant has 57 employees and is under the direction of Mr. Frank Leach as Engineer in Charge.

Mr. Leach lives in Elm Grove, another suburb of Milwaukee, not quite so close in. The age is 56 and length of
4200 service 28 years.

The East Wells Street Power Plant has 21 employees and is under the direction of Mr. Thomas Franks, Engineer in Charge.

Mr. Frank's residence is in Milwaukee. His age is 60, and he has been with the company for 23 years.

That is the plant that is about to be changed to a much larger plant so that the duties of the Engineer in Charge will be materially increased and will undoubtedly fall upon the present engineer.

 4201

The Stephenson Building Power Plant is a small plant used entirely for heating. It has 17 employees and is under the direction of Mr. Edward Hass.

Mr. Hass lives in Milwaukee. He is a man 52 years old and he has been with the company for 23 years.

We have at Racine a small power plant under the direction of Mr. H. H. Lueschke. There are 13 employees in this plant under Mr. Lueschke's direction. Mr. Lueschke is 48

years old and he also has been with the company for 23 years. 4202

In the power plant is a division called the equipment testing division, under Maurice Fitze, a Test Engineer. There are 10 employees in this division. Mr. Fitze lives at another suburb of Milwaukee called Hale's Corners on the rapid transit lines about 20 minutes from dowr town. His age is 39 and he has been with the company for 16 years.

Construction and design division with 7 employees is under the direction of the Chief Designer, Mr. F. F. MacMillen.

Mr. MacMillen is 59 years old, has been with the company 8 years and lives in Milwaukee. 4203

The last division of the power plant department is the heating division with 31 employees under the general direction of Mr. Henry Warhanek as Superintendent of Heating.

Mr. Warhanek lives in Milwaukee, his age is 49 years, and Henry has reached the dividing point of 30 years, just mid-way between a regular veteran and a double veteran.

He has charge of the distribution system for heating as distinguished from the plant operation that supplies the steam for the heating system.

(Discussion off the record.)

Q. Mr. Van Derzee, I think you omitted to mention the chemical and physical laboratory of the power plant department. A. That is true. The chemical and physical laboratory

—1,882—

with 5 employees is under Mr. W. O. Pflaum, Chief Chemist.

Mr. Pflaum is also a resident of Wauwatosa where he is very active in civic affairs. His age is 56, he has been with the company for 24 years.

We have a large division called the maintenance division
4205 which is distinct from power plant operation but is under the direction of Mr. Fred Dornbrook. It is called the maintenance division and the head of that division is Mr. Henry Dornbrook. Mr. Henry Dornbrook's title is Master Mechanic.

Mr. Dornbrook lives in Shorewood, he is 59 years old and he has been with the company for some 37 years.

It is a duty of the mechanical division to see that all the equipment is kept in state of repair which will give continuity of service. To that end, each of the major power plants has a well equipped machine shop so that in case of
4206 breakdown of minor pieces of equipment, repairs can be made promptly.

This division also affords a place where men who are employed on the heating system in the winter time can find work in summer time when most of the repairing is done by the maintenance division. Altogether, it is an extremely important division and it is headed by a very competent individual. Henry seems to be able to apply to the maintenance of power plants the same kind of genius that his brother Fred gives to power plant operation.

4207

The third department under Mr. Post is the plant engi-

—1,883—

neering department which is headed by Mr. H. A. Luber, who has the title of Chief Architectural Engineer. Mr. Luber lives in Whitefish Bay, he is a man 47 years old and he has been with the company for 30 years. He is in charge of drafting, engineering, specifications, building maintenance, heating and ventilation of buildings and air conditioning.

Mr. Luber entered the service of the company on June 27, 1910 as an architectural draftsman. He was previously em- 4208
ployed in Milwaukee in a local architect's office as a draftsman, so that Fred has lived most of his life in Milwaukee and spent nearly two-third of that working for the company.

Under Mr. Luber is a small general office division of 6 employees and in his drafting office are employed 45 draftsmen and engineers who work on building, mechanical and electrical problems.

Under him is Mr. F. C. Schroeder, Building Engineer. Mr. Schroeder lives in Milwaukee, is 57 years old and has been with the company for 24 years.

4209

(Discussion off the record.)

There is a building maintenance division under Mr. E. A. Bolzendahl, the Building Superintendent.

Mr. Bolzendahl lives in Milwaukee, he is age 46 and he has had 25 years of service with the company. He has been employed in various capacities. He is a regular bull dog for work. He is usually found out in the field bossing a big

—1,884—

construction job like at Lakeside or Port Washington in respect to the building operations only.

4210 While we are glad to have him take up the work of preparing to defend this country, we are sorry to see Mr. Bolzendahl leave us shortly for anywhere from one to four years, he says, to be a Colonel in the U. S. Army.

Under Mr. E. W. May, a Mechanical Engineer, fall the problems of heating, ventilating and air conditioning on the properties of the company. Mr. May is relatively new but a very conscientious and competent individual with the company.

4211 His place of residence is Milwaukee. He is 41 years old and he has been with us for two years.

That ends the general description of the major divisions and sub-divisions of the departments constituting 1,436 employees under the direction of Mr. Post, Vice-President in Charge of Power.

The Examiner: We will recess until 10:00 o'clock tomorrow morning.

(Whereupon, at 4:30 o'clock p. m., the hearing was recessed until 10:00 o'clock a. m., Wednesday,

4212 September 25, 1940.)

BEFORE THE

Securities and Exchange Commission

Docket No. 59-10

IN THE MATTER

of

THE NORTH AMERICAN COMPANY, *et al.*

4213

4214

Hearing Room 609,
Securities and Exchange Commission Building,
Washington, D. C.,
Wednesday, September 25, 1940.

Met, pursuant to adjournment, at 10:00 o'clock a. m.

Before: W. W. SWIFT, *Trial Examiner.*

Appearances:

4215

S. PEARCE BROWNING, JR., and
CHARLES S. HAMILTON, JR., of Sullivan & Cromwell, 48 Wall Street, New York City, Attorneys for the Respondents.

HERMAN O'DELL,
MISS E. H. CALKINS, and
C. M. MAXWELL, attorneys on behalf of the Securities and Exchange Commission.

4216 *Gould W. Van Derzee—By Respondents—Direct*

PROCEEDINGS

The Examiner: The hearing will come to order.

Whereupon, GOULD W. VAN DERZEE resumed the stand and testified further as follows:

Direct Examination by Mr. Browning (Continued):

Q. At the close yesterday, Mr. Van Derzee, you had finished describing the departments in charge of Mr. Post
4217 who is vice president in charge of power. Will you now describe the departments under Mr. Coffin, vice president and sales manager? A. First, I would like to say with respect to Mr. Coffin that he is sixty years old, has been with the company for twenty-eight years.

He is a resident of the Village of Shorewood, which abuts the north limits of the City of Milwaukee.

Mr. Coffin is in charge of the operations of the sales and the advertising departments. He is a graduate of the University of Illinois in electrical engineering. He worked his way through college and came with our company on
4218 January 15, 1912, as a draftsman.

He had previously had a position with the Commonwealth Edison Company in Chicago in a similar capacity. Mr. Coffin is quite active in the civic affairs of the community and he is really a powerful figure in good public relations that

our company enjoys.

One of his chief characteristics is his extremely kindly disposition and expression and everybody thinks very highly of him. I think he is the kind of man that you need in a sales and advertising department.

He has the facility of passing on down to his men his own personality. In Mr. Coffin's sales department are 209 employees. One of the very important divisions is the appliance service division headed by Mr. C. M. Berry, who is superintendent of appliance service.

Mr. Berry lives in Shorewood. He is 52 years old and he has been with the company thirty-four years. He is what you might describe as a never-tiring public servant. There is probably no one thing that the customer wants done faster than restoring something the matter with the appliances. If the refrigerator is out of service day or night and if it is an important job, Mr. Berry, himself, may be on the job.

He naturally has various people who are scheduled to appear day or night for different kinds of appliance trouble. There are minor troubles which are handled by the trouble department of the company, which is different from what we call the appliance service department.

When we placed Mr. Berry's activities under the sales department years ago, we did it because we thought that no one could have a better understanding of the problem of the

customer and his servicing needs than the management of the department that sells the customer the appliances and service.

In the sales department there is a small general office division headed by Mr. Mackowski, assistant to the sales manager. Mr. Mackowski lives in Milwaukee, he is 46 years of age and he has been with the company for twenty-three years.

We have a home service bureau which is under the sales department with thirteen employees which is headed by Mrs.

4222 Vera Ellwood. Mrs. Ellwood has a position of Director of Home Service.

Mrs. Ellwood is 58 years of age. She has been with the company for fourteen years. She came to the company with a very fine background, home economics, the University of Wisconsin, and teaching experience in the extension division and vocational schools in matters relating to home furnishings. I think that Mrs. Ellwood probably knows more women in the City of Milwaukee in all the various strata,
4223 probably, than any other one person.

She is one who can gain the confidence of almost any woman who comes to see her and she makes many calls by request at the homes of the women of the community. Many of these calls result from home service girls who travel from home to home and in connection therewith they ask about Mrs. Ellwood and will she come and see them.

Another larger division of the sales department is the

lighting and rural sales under the direction of Mr. I. L. Illing, illuminating engineer. Mr. Illing lives in Milwaukee,
4224 he is 43 years of age and he is almost a veteran. He has been with us some nineteen years.

Mr. Illing is in charge of all lighting operations and he is recognized in the community as a very able citizen and lighting engineer. He has devised for a great many special occasions very neat lighting effects.

We have a lecture with a set of portable apparatus that he designed. It is taken out before those who call for such a program, and showed to groups under the heading of a lecture called "The Miracle of Light". That has been going now for about two years and the demand for it never ceases.

4225

It is an educational experience in what you can do with light in business, in the home, in the factory. It always is kept up-to-date with enough of the modern things like cold lighting, fluorescent lighting, to make it interesting, even to children of school age.

Then we have the merchandise stores with twenty-seven employees, under the direction of Mr. Elmer Stocker, with the title of Superintendent of Merchandise Sales. Mr. Stocker lives in Milwaukee, he is 45 years old and has been with the company eighteen years.

4226

Mr. Stocker's business is to actively push the sale of that type of merchandise that we think needs the push that the

—1,890—

company can give it, and emphasis, as I said yesterday, is placed upon those electrical devices that are not taken off the counter in the department store and the electrical dealer.

Those things that have not received full customer acceptance are the things that our merchandise department pushes, together with our field forces.

Q. Your merchandise department sells these appliances which you feel need pushing? A. That is true; but we sell them at regular standard prices and we do not indulge in practices that any small dealer can not indulge in.

4227

We have a power sales division with sixteen employees under the direction of Mr. O. O. Wagley. He is the superintendent of power sales. Mr. Wagley came with the company a number of years ago when the company absorbed the Wells Power Company, a predecessor company operating in the City of Milwaukee, so he came to us with a good deal of experience that a manager of a small property gets with all types of customers.

4228 Wagley is 62 years old, very active, and he has been with the company for thirty-three years. I think he knows most of our customers personally and at some time or other and perhaps frequently has been through the factory of each and had something to do with the making of a report on power facilities.

—1,891—

Mr. Wagley is the type of man that you know is just honesty itself when you look at him. When he gets out a
4229 report for a company, say, that has considerable use for by-product steam, and can more advantageously put in a small turbine in connection with buying some service from the company, he will tell that customer that that is what he ought to do. Correspondingly, if it isn't the thing, he and his salesmen will tell the customer that he ought not to put in a diesel engine for this or that reason and rather generally it works out from experience that when they depart from the advice of that bureau, they come back again to the company after a period of a few years.

For the selling of ranges, we have a special division
4230 which sells nothing but electric ranges. There are fifteen men in the division and it is under Mr. Christopherson. He is known as the superintendent of range sales. Nels, as we call him, has a very large experience with the company.

He started in working in the former Central Heating Company, then he went with the sales department and has gradually become very proficient in dealing with cooperative dealers who handle electric ranges in the city and in handling his own sales force and keeping away from antagonism with dealers, although we, too, sell electric ranges direct.

 4231

Mr. Christopherson is 57 years of age and it was with great pleasure that not many months ago I could go into his

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office and say "Nels, congratulations on becoming a double veteran with forty years of service."

He will receive his double veteran's emblem at the annual meeting of the veterans just before Christmas.

Similar to the set-up by which we sell electric ranges, we have a division that promotes the sale of electric water 4232
heaters and there are twelve in that division under the direction of Mr. M. Zass, superintendent of water heater sales.

Mr. Zass is 52 years old and has been with the company twenty-seven years. Electric water heating is somewhat of a new venture with this company, that is, compared with other promotional plans.

We have been selling electric water heater service now for five or six years and it has been, as is the case all over the country, an up-hill proposition because it hasn't as yet gained the popular acceptance that the electric range has. 4233
Give it another five years and electric water heaters will be sold off the shelf.

I happen to know that right now Sears-Roebuck & Company, whom I consider to be among the best merchandisers in the world, is planning to take a substantial part of the output of A. O. Smith Company which has recently announced that it is making a line of glass lined water heater tanks.

A. O. Smith is one of our customers and they have been making large glass lined vessels for the beer industry and

4234 now they have gone into production on these small water

—1,893—

heater tanks with glass lining.

Of course, that is a fine thing for the water heater trade. I think we can look for big things in Mr. Zass' department in the coming years.

In the advertising department, which is under the direction of Mr. Coffin, there are seven people headed up under Mr. F. E. Erikson, advertising manager.

4235

Mr. Erikson is 55 years old, has been with the company for sixteen years and he is doing a good job in this field. This is one of those joint departments, that does a very substantial amount of work for the Transport Company, just as that department did for the transportation business before the corporate separation two years ago.

That completes the description of the departments and the personnel under the vice president and sales manager, comprising in total 216 employees.

Q. Will you describe for us now the departments which

4236 are under Mr. L. F. Seybold, vice president and research engineer? A. Mr. L. F. Seybold, usually known around the office as Sey, lives in Wauwatosa. He is 43 years old and has been with the company for twenty-one years.

Mr. Seybold is a graduate of the University of Wisconsin and he came with the company after entering the service in the first World War on April 1, 1919, as an engineer in the

—1,894—

research department, which had not been organized very long at that time.

He gradually advanced, as time went on and because of his great ability, to assistant research engineer and then to research engineer, assistant vice president, and then to vice president and research engineer, which position he has had since October 20, 1938.

I think that anyone who has had contact with Sey in this very important research work, thinks of him as a prodigious worker, a man of great intelligence and loyalty.

Many of you have undoubtedly come in contact with him 4238
in connection with some of the security matters. I probably don't need to go into his many good points. I will wish to describe later the functions of this research bureau which services all of the companies in our Wisconsin-Michigan group and very effectively and efficiently.

Under Mr. Seybold's direction is the operating research bureau, having a total of seventy-seven employees. First, we have the assistant research engineer, Mr. John Dockendorf. Mr. Dockendorf is 51 years of age and has been with the company for twenty-one years. He has charge of the transportation and engineering division of the research bureau, 4239
handling of the internal auditing division which audits in a special way the accounts of Wisconsin Electric Power Company, Wisconsin Gas & Electric Company and The Trans-

port Company.

He has charge of the statistical division and special investigations division. Under Mr. Dockendorf are five groups in which thirty employees are engaged. There is the stenographic division with six employees, the transportation and engineering division with three employees, under the direc-

4240 tion of Mr. C. F. Balch, who lives in Wauwatosa, is forty-five years of age and has been in the service of the company twenty-three years.

The internal auditing division is also under Mr. Dockendorf, headed up by Mr. R. J. Mathews, as supervisor. Mr. Mathews is forty-five years of age, lives in Shorewood and has been with the company for seventeen years.

Then we have the statistical division under the direction of Mr. R. W. Schmelz, as supervisor. Mr. Schmelz is thirty-
4241 six years old, has been with the company fourteen years. He has a great facility for gazing in the crystal globe and picking out how many kilowatt hours we will sell next year.

Then, a gentleman about whom I probably do not need to say very much as he has been with you for several days in the person of Mr. E. H. Schmidtman, known as Ed, who has charge of special investigation division of eleven employees. I think that most of his qualifications have been given and I think that you have been in a position to judge yourselves a good deal of his character.

Ed is a man of many parts, keen intellect, very hard
4242 worker, valuable employee of this company.

—1,896—

His services in that capacity are devoted to the interests of a group of properties.

We have another research engineer, Mr. F. L. Larkin. Mr. Larkin lives in Whitefish Bay, he is forty-three years old, has been with the company for fifteen years. He is in charge of job analysis and bonus plans, bonus calculation, employee selection training division, and the employment office.

4243

Under Mr. Larkin are some thirty-nine trained men in four groups, the first of which, with seventeen employees, is under Mr. H. P. Chamberlin, supervisor. He has charge of wage incentives, standards, methods, and job analysis.

Mr. Chamberlin lives in Wauwatosa, is thirty-six years old and has been with our company fourteen years.

The bonus calculation division with twelve employees is also under Mr. Larkin indirectly, but is headed up by Mr. E. W. Gottschalk, supervisor. Mr. Gottschalk lives in Shorewood, is thirty-nine years old and has been with the company for eighteen years.

4244

A small division with nine employees called the employee selection and training division, is under Mr. A. H. Nielsen, educational director.

Mr. Nielsen is a man forty-one years old and has been with the company for sixteen years, lives in Milwaukee. As educational director he has done much to improve the trade

—1,897—

knowledge of our employees.

4245

He has also done a great deal in promoting the foreman training process. We have meetings which have probably been described at which our four hundred some foremen get together and hear about processes of management. They conduct these meetings themselves and ask questions and our representatives at these meetings really do very little except to direct the course of the discussion.

The employment office is directed by Mr. W. Pohland, as an employment agent. Mr. Pohland is forty-five years old, has been with the company for twenty-one years and he is a man with one of those remarkable memories for faces.

An individual can come in whom he hasn't seen for many years. Possibly there may be some reason why that man should not be employed by the company. Mr. Pohland's recollection sends him back to a card somewhere back in the files to find if the records check with his recollection. It usually does.

He is the first gate at which the new employee makes his application and from that point on there are very extensive selection and training tests, most of which are under
4247 the educational department, so it is natural that all of these divisions that I have just recited should be together under Mr. Larkin's general direction.

In addition, we have a third assistant research engineer, Mr. Alfred Gruhl. Mr. Gruhl is age thirty-eight and has been with the company for eight years.

—1,898—

He is assistant research engineer in charge of the very important subject of tax matters. Under him works Mr. C. J. Trudeau, who is supervisor of the tax division.

Mr. Trudeau lives in Wauwatosa, he is thirty-six years
4248 old and has been with the company for fourteen years.

In addition to the operating research bureau, Mr. Seybold has charge of the purchasing and stores department with sixty-one employees, under the immediate supervision of Mr. F. V. Benz, purchasing agent. Mr. Benz lives in Milwaukee, age fifty-six, and for that age it is rather remarkable that he has been with the company for forty years, which means he started as a messenger boy when he was sixteen years old.

Mr. Benz' department not only has charge of purchasing and stores, but the general operation of the public service building, which includes the janitor force.

Under Mr. Benz is the assistant purchasing agent, Mr. A. A. Misenheimer. Mr. Misenheimer is even younger than Mr. Benz, his boss. He is fifty-five years old and he also will get a double veteran medal for forty years of service at the annual meeting of the veteran's association at the end of this year. 4249

An additional department under Mr. Seybold's direction is the printing department with twenty-seven employees supervised by Mr. B. F. Dahlman. Mr. Dahlman, Bruno, as we call him, is forty-nine years old, has been with the com- 4250

pany for twenty-four years. Bruno is one of the best, most good natured printers that I think I have ever met. You can get Bruno out of bed most any time of the night when we have to print up some document to go before different bodies that require rather prompt action, not too long to get things together, and he turns up with a job of printing the like of which you can't buy anywhere and for as low a cost.

He also gets out the many advertising forms that are needed for the sales department. He prints all the transfers for the Transport Company, does a great deal of work for Wisconsin Gas & Electric Company and various kinds of forms that they need. 4251

Quite recently, Wisconsin Gas & Electric thought it would go shopping and see how really effective our printing service was and they found that the form was quite a little cheaper when obtained from this joint printing department. Work is also done for Wisconsin Michigan Power Company.

As a matter of fact, as I will probably describe later——

4252 *Gould W. Van Derzee—By Respondents—Direct*

(Discussion off the record.)

The Witness: Read my last answer.

(Whereupon, the answer above recorded was read by the reporter.)

A. (Continuing) —in more detail, Mr. Dahlman's printing department prints the passes for the Capital Transit Company.

—1,900—

4253 Q. Will you now describe the department of the secretary and treasurer? A. As presently constituted, the department of the secretary and treasurer is under the direction of Mr. H. J. Boehm. Mr. Boehm is one of our oldest and most valued employees.

(Discussion off the record.)

A. (Continuing) Mr. Boehm is seventy-three years old and has been with the company for fifty-eight years. His qualifications have been previously given.

4254 In Mr. Boehm's department are six secretaries and stenographers, under his general direction, and the accounting department.

The accounting department with 317 employees is under the immediate supervision of Mr. A. J. Bohl, controller. Mr. Bohl is also assistant secretary and assistant treasurer. Mr. Bohl is a resident of Milwaukee. He is fifty-four years old and has been with the company thirty-nine years.

As controller he is in charge of all accounting. He entered the service of the company on July 1, 1901, as a mes-

senger boy in the accounting department. He is a native of Milwaukee and this job was his first and only job.

He was appointed to his present office on March 24, 1926 —that is, to the position of assistant secretary and assistant treasurer and although he has been acting as controller for a number of years, he was first officially appointed con-

troller by the Board at its annual meeting in 1940.

As a direct assistant to Mr. Bohl, we have Mr. L. M. LaPorte, assistant secretary and assistant treasurer. Mr. 4256
LaPorte lives in Wauwatosa, he is forty-three years old and has been with the company for twenty years.

Mr. LaPorte is in charge of customer accounting and he entered the service of the company on April 5, 1920, as an accountant. He had been previously employed by a large industrial concern and acquired experience in that capacity. His position as assistant secretary and assistant treasurer dates from May 16, 1932. It has been under Mr. LaPorte's direction that much of the progress has been made which has given the Milwaukee Company the lowest customer accounting costs of any comparable sized company in the country. 4257

That was one of the accomplishments that was listed in the Coffin Award which I will describe a little later, given to Wisconsin Electric Power Company for its performance in the field of electric light and power last summer by the Edison Electric Institute.

Under Mr. LaPorte's direction are the 317 employees that I mentioned of which 221 are in the customers' accounting division under the direction of Mr. A. G. Neumann, auditor of customers' accounts.

4258 *Gould W. Van Derzee—By Respondents—Direct*

Mr. Neumann lives in Milwaukee. He is a man forty-four years old and he has been with the company for seventeen years.

—1,902—

The report and development division under Mr. T. W. Gehl, as supervisor, has twenty-two employees. Mr. Gehl is thirty-one years of age and has been with the company for five years, but he occupies a very important position in that his work is in effect a miniature research bureau which is a
4259 part of the accounting department and devotes almost all of its time to finding new ways and methods of keeping the Milwaukee company on top as far as accounting costs are concerned.

It is his job to see that we stay there.

There is another division known as the mechanical accounting division under Mr. H. J. Fillhouer as supervisor. This is a division where all of the various accounting machines of various kinds, tabulating machines, are located.

Mr. Fillhouer is a man thirty-seven years old, lives at Fox Point, one of the outlying suburbs, and has been with
4260 the company for fifteen years.

That division has just been rejuvenated with respect to its quarters under Mr. Fillhouer's direction. We put soundproofing on the wall, new floors, different arrangement of the machines. You can go in there and hear these machines that heretofore made lots of noise, just audibly clicking away.

It has much to do with the comfort and I think output of the department that performs a very important service and the work it does at the end of the month is intimately associated with the closing of the books.

—1,903—

4261

We have a division under Mr. J. A. Wolfrum, paymaster, which is called the payroll and timekeeping division, with twenty employees.

Mr. Wolfrum is forty-four years old, lives in Wauwatosa, and has been with the company for eighteen years.

This division is sometimes called the centralized payroll department. We are gradually taking all the payroll work from the various divisions and departments and concentrating it in the centralized payroll division, with benefits of considerable magnitude.

4262

We have a cashier's division under Mr. J. W. Mielke, cashier, under whose direction there are eighteen employees. Mr. Mielke is a resident of Milwaukee, is fifty-four years old, and he has been with the company for twenty-eight years.

The last division of the so-called accounting department covers the employees who are associated with the Employees Mutual Saving Building & Loan Association.

They are under the general direction of Mr. LaPorte, who is an officer of the Association, but their expenses are naturally kept separate and are charged against the association.

4263

There are twenty employees in that group.

Aside from the customers' accounting division, we have several smaller groups that are directly under Mr. Bohl as controller and one of these is the general accounting division

with twenty-three employees, under the immediate supervision of the general auditor, Mr. W. A. Gauger. Walter Gauger is a resident of Milwaukee County. He is out in the rural district by choice, he is forty-eight years old and he has been with the company for twenty-nine years. I should

say he has been with this company and its predecessors, because he, too, came with the Wells Power Company.

He is general auditor in charge of the general accounting division.

We have accounts payable division with nine employees under the direction of Mr. S. R. Hatch, as auditor of disbursements.

Mr. Hatch lives in Whitefish Bay. Sam is sixty-one years old and has been with the company for nineteen years.

4265 Then we have the property and plant division reporting directly to Mr. Bohl, with thirty employees under the direction of Mr. R. L. Stiles. Mr. Stiles is the supervisor. This is one of the really modern departments of the company. It is the one where the property records are kept.

For many years, we have tried to keep our property up to date. We started with the valuation made by the Public Service Commission as of January 1, 1914, and since that time have analyzed work orders covering each specific job and properly tied it in with the books so that we can produce authentic records and in considerable detail of all the prop-

4266 erty that the company owns.

—1,905—

It isn't exactly a continuous inventory, but it is a direct book record of dollars and cents and we have used the net additions of property thus added—that is, taking away from the additions, the retirements—as a direct addition to the valuation of January 1, 1914, corrected for retirements, in order to get at the rate base on which we are allowed a return.

Mr. Stiles being an engineer and also an accountant, is very ably constituted to handle that work. We have a col-

lection division that does minor legal work as distinguished from our general counsel under the direction of Mr. R. J. Schimmel. There are five employees in that division and it is located in the accounting department quarters.

Mr. Schimmel is forty-two years old and he has been with the company for twenty-two years and he is designated as being in charge of collections.

Then we have a securities division reporting to Mr. Bohl, under Mr. W. J. Muth. He is supervisor of this division of eleven people and Mr. Muth has been with the company fourteen years; he lives in Milwaukee and is thirty-nine years old. 4268

That completes a superficial description of the officers, department heads and their principal assistants and their service records.

—1,906—

If we take them altogether as a group and analyze the places they live, the time they have been with the company, their qualifications, I think we reach three rather important conclusions:

That all of them live in the service area and very close to where they work; that the average length of employment with our company has been 21.1 years; and last, that as a group they are pretty able citizens, respected in the community. 4269

Q. You have been testifying with regard to the management staff of Wisconsin Electric Power Company. Will you now describe for us the Board of Directors of Wisconsin Gas & Electric Company? A. The Board of Directors of Wisconsin Gas & Electric Company includes Sylvester B.

4270 *Gould W. Van Derzee—By Respondents—Direct*

Way, Gould W. Van Derzee, Frank J. Boehm, James D. Shaw, Stanley B. Sherman, who was elected April 25, 1940, Arthur W. Whitcomb, who was elected February 22, 1933, and Robert Sealy who was elected December 23, 1938.

All the foregoing have already been mentioned by me in detail except Messrs. Sherman and Whitcomb, but I find in omitting the dates at which the other gentlemen were elected to the Board, I was under the impression that we had given that information before, but it is not the case in respect to
4271 these companies although we have given a description of the individuals.

Mr. Way was elected to the Board of Wisconsin Gas & Electric Company January 15, 1912; G. W. Van Derzee,

—1,907—

August 29, 1917; Frank J. Boehm on February 18, 1924; and James D. Shaw on January 18, 1915.

Mr. Stanley B. Sherman, a board member whom I have not described, resides in Racine, Wisconsin, which is the home office of Wisconsin Gas & Electric Company. Mr. Sherman is fifty-nine years old. He was graduated from Armour
4272 Institute of Technology of Chicago and prior to coming to Racine, Mr. Sherman was employed by the Peoria Gas Light Company located at Peoria, Illinois, for a period of approximately eighteen years. While employed at the Peoria Gas Light Company, he served in various capacities and advanced to the position of gas plant superintendent.

He entered the employment of Wisconsin Gas & Electric Company on August 15, 1919, as gas plant superintendent at Racine. On November 18, 1938, he was appointed general manager and on April 1, 1940, was elected to the present position of vice president and general manager.

Mr. Sherman has resided in the territory served by Wisconsin Gas & Electric Company since the date of his employment, a period of approximately twenty-one years.

Mr. Sherman has, so to speak, come up through the ranks and has demonstrated from time to time the justification of increasing the importance of his position and we know that his most recent employment will be a great benefit to the company. —1,908—

Mr. Arthur J. Whitcomb resides in Whitefish Bay, Wisconsin. Mr. Whitcomb is fifty-four years of age. He graduated from the Law School of the University of Wisconsin and after graduation he entered practice of law in the City of Oconto, Wisconsin. Mr. Whitcomb continued the practice of law at this location until entering the employment of the company. 4274

On November 1, 1930, he entered the employment of The Milwaukee Electric Railway & Light Company, predecessor company of Wisconsin Electric Power Company, as an assistant to vice president William A. Jackson.

His present position is attorney in charge of contacts with local governments and that applies to his work for the Wisconsin Electric Power Company and The Transport Company, although he assists Wisconsin Gas & Electric Company. 4275

Mr. Whitcomb has resided in the territory of Wisconsin Electric Power Company and predecessor company for nearly nine years and has been a resident of the State of Wisconsin since his birth. Mr. Whitcomb has been in the company group for ten years.

Q. Will you now describe for us the functions of the Board of Directors of Wisconsin Gas & Electric Company?

A. As you will note from the description of the Board, there are only seven directors of Wisconsin Gas & Electric Company and six reside, you may say, in or near Milwaukee. Mr. Sealy lives in the east.

—1,909—

We have no executive committee of Wisconsin Gas & Electric Company and consequently the types of functions performed by the Executive Committee of Wisconsin Electric Power Company are handled before the full Board.

4277 There are also a number of other informal meetings of the Directors in Milwaukee with the vice president and general manager, which are the approximate equivalent of an executive committee meeting and out of those meetings, I am sure, that Mr. Sherman and all of us get a good deal of value.

Q. Does the Board of Directors of Wisconsin Gas & Electric Company direct all phases of its management? A. The Board of Directors of the company, naturally, directs all of the phases of the management and is in constant and intimate contact with all the affairs of the business and each director is fully acquainted with all of the affairs. Even

4278 Mr. Sealy, who does not live in the territory, gets regular reports of all operations and attends meetings from time to time.

Q. Who are the general executive officers of Wisconsin Gas & Electric Company? A. In the case of Wisconsin Gas & Electric Company there are four general executive officers —that is, officers whose duties extend generally over all of the operations of the company, as distinguished from officers who have charge of particular divisions and operations.

—1,910—

These four are Mr. Way, president; G. W. Van Derzee, vice president; L. F. Seybold, vice president and Mr. Sherman, vice president and general manager.

Mr. Sherman is really in charge of the operations of the property and it is up to him to see that the property percolates properly.

Now, we are all in contact with the activities—that is, the general executive officers that I just referred to. Mr. Sherman is out on the firing line and he is in almost constant contact with the heads of the various divisions of the company. 4280

The company is spread out so that it has to have operating divisions. He travels extensively throughout these divisions, coming in contact with the division managers, district managers, the local agents of various communities in which they operate. To him report directly all of the division managers.

Mr. Sherman, as vice president and general manager, has full authority to deal with and does deal with all matters in his territory which relate to the maintenance of the character of service which the public expects.

That means really, in other words, in all things that the ultimate customer is really and actually interested. 4281

Q. Will you describe for us the operating staff of Wisconsin Gas & Electric Company?

Just a moment, Mr. Van Derzee, before you do that. I believe that you omitted to state the approximate total number of employees of Wisconsin Electric Power Company.

—1,911—

What is that total figure? A. Approximately 2,300 employees.

4282 Q. Now, will you describe for us the operating staff of Wisconsin Gas & Electric Company? A. The next officer in line, whose name has not yet been mentioned, is that of D. G. Evans, vice president. Mr. Evans lives in Racine, the home office of the company. He is fifty-two years old and has been with the company for twenty-one years. He is vice president in direct charge of rate analysis and development, service rules and regulations and special investigations.

Mr. Evans first entered the service of Wisconsin Gas &
4283 Electric Company on January 15, 1919, as an electrical engineer. He had previously attended the State University of Illinois. He was elected vice president on November 18, 1938.

Reporting directly to the vice president and general manager are the various division managers. But before explaining their functions and describing them, I would like to add the description of the other officers of the company.

The secretary and treasurer is Mr. F. J. Boehm, who has been previously described, except that his length of service with this particular company has not been given and that
4284 is twenty-nine years.

Mr. Boehm was elected secretary and treasurer of the predecessor company, the Racine Gas Light Company, on August 2, 1911.

—1,912—

The assistant secretary and assistant treasurer of the company is Mr. L. M. LaPorte who has been previously described. Mr. LaPorte has been with this company four years in the capacity indicated.

In addition, there is assistant secretary and assistant treasurer, Mr. J. G. Johansen. Mr. Johansen has been in

the capacity with Wisconsin Gas & Electric Company for four years. Mr. Johansen is thirty-two years of age. His place of residence is Woodcliff, New Jersey.

Q. Mr. Johansen handles certain matters of the company in New York? A. He does.

Q. He holds the same position for Wisconsin Electric Power Company? A. He does.

Q. Go ahead. A. In addition, we have Mr. J. I. Allen, assistant secretary and assistant treasurer. Mr. Allen resides in Racine. He is forty-four years old and has been 4286
with the company for twenty-eight years. In that capacity, Mr. Allen is in charge of corporate records, collections, budgets and securities.

Mr. Allen entered the services of Kenosha Gas & Electric Company on July 8, 1912, and continued in the services of Wisconsin Gas & Electric Company after the merger of the former company with the latter. He was appointed to his present position on October 20, 1929. —1913—

Now, going back to the division managers——

Q. Just before you do that, Mr. Van Derzee, is Mr. Bohl an officer of Wisconsin Gas & Electric Company? A. He is 4287
also assistant secretary and assistant treasurer.

Q. And you also mentioned Mr. LaPorte. A. I did. Mr. R. I. Swift is manager of the Racine division. Mr. Swift is forty-two years old and has been with the company for eighteen years.

As manager of the Racine division, he is in direct charge of the gas and electric service rendered by Wisconsin Gas & Electric Company in the division and also in charge of the electric operations of Wisconsin Electric Power Company in Racine.

It so happens that Wisconsin Gas & Electric Company does the gas business in Racine and Wisconsin Electric Power Company does the electric business, and from the standpoint of economy of operation, and the joint use of the forces and because, further, the home office of Wisconsin Gas & Electric Company is at Racine, we have an operating arrangement approved by the Public Service Commission of Wisconsin, that various—practically all the operating functions that would otherwise be required of employees of Wisconsin Elec-
4289 tric Power Company are performed by Wisconsin Gas & Electric Company——

(Discussion off the record.) —1,914—

A. (Continuing) —at Racine, under Mr. Swift's direction as Racine manager for Wisconsin Electric Power Company.

A recent example of what Mr. Swift does is his visit to see us at Milwaukee concerning a change in the Racine street lighting situation. We worked up with Mr. Swift, a presentation that we wanted him to make before the Racine Council and he returned and made that presentation.

4290 The manager of the Kenosha Division is Mr. H. M. Pauley. Mr. Pauley has under his direction 163 employees as compared with 122 employees under Mr. Swift in the Racine Division. Mr. Pauley lives in Kenosha which is the center of his division.

He is fifty-two years old and has been with the company for twenty-two years and as manager of the Kenosha Division, he has charge of the electric, gas and transportation operations in the Kenosha Division.

Perhaps a little more detail on those operations of the three functions over which he spreads himself might properly

be given. There is the operation, maintenance and construction of the electric, gas and the transportation business, customer billing for the electric and the gas. Those bills, by the way, are sent out for electric and gas on the same bill and the same meter readers take care of reading the meters of both the gas and the electric customers.

There are problems of electric service for the electric utility, problems of gas service for the gas utility, collections for both and merchandising for each. 4292

Another division manager is Mr. W. D. Leonard, who is manager of the Western Division, with 165 employees. Mr. Leonard lives at Fort Atkinson, Wisconsin, the center of the operating division. He is a man fifty-five years old, has been with the company for thirteen years, but it ought to be stated that Mr. Leonard was an acquisition when Wisconsin Gas & Electric Company acquired the property of a Fort Atkinson local utility, and he had been with the utility business there in Fort Atkinson for many years prior to that time, so it is really an understatement of his situation as far as his length of service is concerned to say that he has only 4293 been with us thirteen years.

He is a long-term resident of Fort Atkinson, knows everybody in the district, I would say.

The work which is done by this division is spread over the electric, gas and heating operations wherever they occur. The heating operation is in Waukesha and gas is spread throughout the territory on account of the high-pressure pipe-line which provides the source of gas.

Mr. Leonard has charge of the operation, maintenance and construction work applicable to these three services,

customer billing, customer servicing, collections, and merchandising. In other words, he has charge of everything that needs to be done promptly or otherwise for any customer in his division.

—1,916—

The fourth division under the direction of Mr. W. E. Kuelthau, is known as the Northern Division, and in that division are ninety-one employees.

Mr. Kuelthau lives in West Bend, which is the operating
4295 division office. He is fifty-six years old and his service with Wisconsin Gas & Electric Company has been only eight years, but Mr. Kuelthau, like Mr. Leonard, came to the company when Wisconsin Gas & Electric Company acquired the privately owned company known as the Wisconsin Public Utility Company, which theretofore operated in West Bend and in a substantial amount of territory adjacent thereto. So he is a long-term resident of the community and I have known him for a great many years.

He is one of those sturdy type, rough diamonds that everybody knows and he gets along with everybody. He is
4296 a very effective manager of the entire division.

We have some other divisions of the company which are not described under the heading of operating division. We have the division of the chief accountant, Mr. C. F. Betts, who has thirty-two employees under him.

Mr. Betts is thirty-six years old and has been with the company for five years. He is the chief accountant in charge of accounting payrolls, bonus calculations and audits.

We come next to the chief engineer of the company, Mr. J. A. Tyvand. Mr. Tyvand lives in Racine as does Mr.

Betts. He is forty years old and he has been with the com-

—1,917—

pany for two years in the capacity of chief engineer. In that capacity all of the engineering work that requires the services of an engineer is done at Racine for all the divisions.

It is a measure of economy and centralization of engineering work that is peculiar to Wisconsin Gas & Electric Company.

Q. Why do you do it that way? A. I stated it was a matter of economy. But, in addition to local handling of 4298
distribution and transmission matters by Mr. Tyvand, all of the engineering is done in accordance with general specifications which have been prepared for construction for the three companies—Wisconsin Electric Power Company, Wisconsin Gas & Electric Company, and Wisconsin Michigan Power Company—and there are, in connection to these local engineering operations, many conferences between Mr. Tyvand and the engineers of Wisconsin Electric Power Company.

Mr. H. R. Broker has 110 employees under him as plant superintendent in charge of gas plant operations and main- 4299
tenance. Mr. Broker lives in Racine. He is forty-four years old and has been with the company for nineteen years.

Mr. W. L. Haight has a designation of assistant secretary. He has two employees under him and in that capacity has charge of personnel relations, labor relations, safety matters, and right-of-way purchases as required by the company.

—1,918—

Mr. Haight is fifty-six years old and has been with the company for twenty-five years.

4300 Under Mr. J. H. Dunham is one of the very important functions, that of promotional supervision. By that I mean promotion of new business. There are five employees under Mr. Dunham, who takes care of new business, merchandising and advertising.

Mr. Dunham lives in Racine. He is thirty-four years old, and his length of service—I should say here, with the companies—is ten years, because, he has recently been transferred from the sales activities of Wisconsin Michigan Power
4301 Company to bolster up the sales activities of Wisconsin Gas & Electric Company.

Quite frequently we find a collection of men in one of these properties peculiarly able to do something better than someone in one of the other properties, and although Mr. Schubert, general manager of Wisconsin Michigan Power Company told me the other day in connection with our Board meeting at Milwaukee, that he disliked very much to see Mr. Dunham leave his direct services, he was glad that Wisconsin Gas & Electric Company could get a man with
4302 the really good qualities of sales supervisor that Mr. Dunham has.

The residual sales require the employment of six persons and I am not giving the name of the man in charge right now because the placing of supervision is now in a state of flux. —1,919—

In all, there are 776 employees in the Wisconsin Gas & Electric Company organization. I think we can say with respect to that company much the same thing that was said with respect to Wisconsin Electric Power Company, that the men who have active charge of the business, full charge, to

give the kind of service that the customer wants, live in the territory where their particular functions must be performed, that they are old and long in the service of the company, that they have averaged some 15.4 years for the group from the officers down through the division managers, and their principal assistants.

My long contact with this company, which, as you may remember, dates back to being on the board of directors since 1917, gives me very definite first-hand knowledge that the important functions of this company are ably staffed. 4304

Q. We can now turn to Wisconsin Michigan Power Company. Will you describe the Board of Directors of that company?

The Examiner: Would any of you like to have a recess?

Mr. Browning: Yes, sir.

The Examiner: All right, we will have a little recess.

(Whereupon, a short recess was taken.)

Mr. Browning: Will you read the last question? 4305

(Whereupon, the pending question was read by the reporter.)

The Witness: Mr. Sylvester B. Way, elected December 9, 1924; Gould W. Van Derzee, elected November 20, 1925; Frank J. Boehm, elected February 22,

1928; James D. Shaw, elected December 15, 1927; William E Schubert, elected April 23, 1940; Arthur J. Whitcomb, elected February 15, 1933; and Robert Sealy, elected December 23, 1938.

4306

Colloquy

All of the foregoing have been described by me except Mr. William E. Schubert. Mr. Schubert is a resident of Appleton, which is the head operating office of the company, although the home office of the company is at Milwaukee.

Mr. Schubert is forty-three years old. He was graduated from the engineering school of the University of Wisconsin and prior to the employment with Wisconsin Michigan Power Company he was employed
4307 for a number of years by The Milwaukee Railway & Light Company, predecessor to Wisconsin Electric Power Company.

He entered the employment of Wisconsin Michigan Power Company on September 1, 1923, as mechanical engineer. I recollect very distinctly that Mr. Schubert was one of the principal assistants coming along under former John Anderson, chief engineer of power plants of Wisconsin Electric Power Company.

You may know that Mr. Anderson's name looms large in the history of the development of powdered
4308 fuel and when it became necessary to remodel the boiler house of Wisconsin Michigan Power Company located at Appleton, Mr. Schubert was wholly detached from the Milwaukee power plant organization and sent up to Appleton to see through the complete reconstruction of the boiler room at that place for powdered fuel operations, and he did a very fine job

of it, so well, as a matter of fact, that he stayed there and on December 7, 1932, he was appointed assistant general manager of the company, on February 21,

1936 general manager, and on March 31, 1939, he was elected to his present position of vice president and general manager of the company.

Bill Schubert can be described as another Wisconsin product, having been born in Milwaukee and educated at the University of Wisconsin, and he has worked in the employ of the companies for approximately twenty-one years.

Q. What are the functions of the Board of Directors of Wisconsin Michigan Power Company? A. As in the case of 4310
Wisconsin Gas & Electric Company, the Board of Directors of Wisconsin Michigan Power Company has only seven members; it has no excutive committee.

The Board of Directors normally meets monthly and all of the various problems which I described as coming before the Executive Committee of Wisconsin Electric Power Company come before the full board of Wisconsin Michigan Power Company.

The absence of an executive committee of this relatively small company is probably made good by the frequent visits of the chief operating officer to Milwaukee and as a matter 4311
of fact, by visits of the Milwaukee officers to the property where important matters are discussed.

Just recently I recollect that Mr. Way took a trip, in fact, with Mr. Shea of the North American Company, who came out to look over the properties. They went quite

thoroughly over the properties of Wisconsin Michigan Power Company as well as the others and were particularly interested in going up to the Narrows Dam, where a storage

reservoir is in process of construction on the Michigamme River.

Perhaps Mr. Schmidtman has described the Narrows Dam. I am sure that the frequent conferences which the so-called general executive officers of Wisconsin Michigan Power Company have at Milwaukee and on the property in Appleton and elsewhere, effectively takes the place of the more formal meetings which the larger company, Wisconsin Electric Power Company, finds it convenient to have in the
4313 form of its Executive Committee.

Q. The Board of Directors of Wisconsin Michigan Power Company actively directs its management of the business? A. Yes, the Board of Directors does actively direct the management of the business in all its phases and all of the directors are rather intimately in contact with the affairs. All of them are in extremely intimate contact and I know that Mr. Sealy, who lives in the east, receives frequent reports of operation and is also familiar with the properties.

Q. Who are the general executive officers of the company? A. The general executive officers of Wisconsin Michigan
4314 Power Company are Mr. Way, Mr. Van Derzee, Mr. Seybold and Mr. Schubert. The first three are also general executive officers of Wisconsin Gas & Electric Company and the first two are general executive officers of Wisconsin Electric Power Company. —1,923—

Messrs. Way, Van Derzee and Seybold are in general contact with the business and Mr. Schubert, in the capacity of vice president and general manager, has the portfolio of being in charge of general operations of all kinds.

He is the local man that really directs the operations of the company under the general direction of the Board of

Directors and in conference with the other general executive officers.

He lives at Appleton in the service area and I know of no other operating officer that has the intimate details of the operation of the business so close to his fingertips as Mr. Schubert.

He is a prodigious traveler. He is at one end of the property one day and the other end of it the next. He watches production very carefully. He is able to do so because of his training. He has able men taking care of sales work and 4316
other divisions of the business, but he, himself, has a good working knowledge of all phases of the utility industry.

Mr. Schubert is not restricted in any way. He has full authority to deal with and does deal with all matters in the territory which relate to the maintenance of service expected by the public. That means, in other words, in all things in which the customers are really interested.

Q. Will you describe for us the operating staff of Wisconsin Michigan Power Company? A. Wisconsin Michigan
—1,924—
Power Company is a somewhat smaller company than the 4317
other two. It has 443 employees. Under Mr. Schubert is an assistant general manager, Mr. M. G. Gorrow. Mr. Gorrow, as the title indicates, has authority under Mr. Schubert to carry on fully in his absence, and he assists him in all operations when he is present.

Mr. Gorrow lives in Appleton. He is forty-three years old and he has been with the company for twenty-three years. He is a very capable operator. One of the largest aggregations of employees in any division of the company is in the

so-called Southern Division which has 207 employees under the direction of Mr. F. E. Volkman.

Mr. Volkman lives in Appleton. He is forty-two years old and he has been with the company for thirteen years. He is the manager of the Southern Division.

He is in direct charge of the electric, gas and transpcrtation operations in the Southern Division.

There is also the Northern Division with 128 employees under the direction of Mr. L. W. Wyss. Mr. Wyss is an old-
4319 time employee of the company. He lives at Iron Mountain, Michigan, which is the operating headquarters of the Northern Division.

He is forty-four years old and has been with the company for twenty-three years and he operates as the manager of the Northern Division in direct charge of electric operations in

—1,925—

that division.

There are no gas or transportation properties in the Northern Division. In other words, he has complete charge
4320 of the operations of the company in the Northern Division.

That Northern Division, as you may have been told by Mr. Schmidtman, includes the territory of the company in Michigan and a small amount of territory just south of the north boundary of Wisconsin.

In charge of purchasing and stores, is Mr. H. H. Damm. Mr. Damm lives in Appleton. He is thirty-nine years old and he has been with the company for twenty years. He is the purchasing agent in charge of purchasing and stores with five people under him.

4321

I have not heretofore mentioned individual officers other than those discussed as general executive officers and the first assistant. These additional officers are secretary and treasurer F. J. Boehm, whom you will recognize is secretary and treasurer of Wisconsin Gas & Electric Company and Wisconsin Electric Power Company.

With this particular company, he has been secretary and treasurer for fifteen years. The assistant secretary and assistant treasurer, Mr. A. J. Bohl, who also has similar positions with the other named companies, has been in those 4322
positions for twelve years with Wisconsin Michigan Power Company and Mr. LaPorte, as assistant secretary and assistant treasurer, has been with the company for four years

—1,926—

in those capacities.

We have previously mentioned Mr. Johansen and he has been in the capacity of assistant secretary and assistant treasurer at New York for four years.

We have also Mr. L. R. Gresenz, who is assistant secretary and assistant treasurer. Mr. Gresenz lives in Appleton. 4323
He is forty-four years old and he has been with the company for twenty-five years and he is in charge of corporate records, collections, securities, insurance reports and accounting procedure.

He is very ably assisted by another assistant secretary and assistant treasurer, L. E. Hellenbeck, and the "L." stands for Linda. Linda is a lady. Miss Hellenbeck resides at Appleton and has been there for many years. She is forty-seven years old and has been with the company for twenty-seven of those forty-seven years.

She is specifically in charge of accounting, payroll and auditing and with Mr. Gresenz, constitutes the supervision over the character of activities indicated, with twenty-eight people under their supervision.

We have a chief engineer with twenty-five employees, by the name of C. E. Harger. Mr. Harger lives in Appleton. He is sixty-one years old and has been with the company for twenty-seven years, now chief engineer in charge of engineering, plant records, Southern Division plant operation
4325 and property accounting.

—1,927—

As I recollect the situation, Mr. Harger, and I am certain of this, came with us from the Peninsula Power Company, which we acquired back some fifteen years ago.

Assisting Mr. Harger is Mr. J. S. Wells, as assistant chief engineer. Mr. Wells lives in Appleton, has been with the company for fourteen years and is thirty-eight years old.

Mr. C. E. Schaefer, is an executive assistant with various duties common to that type of operation. He is particu-
4326 larly interested in personnel relations and labor relations and does a good job at it.

Mr. Schaefer is a resident of Appleton, age thirty-eight and has been with the company for twelve years. He also does some work in connection with the operating budgets of the company.

We have in the person of Mr. R. E. Williams, I think, one of the very effective promotion-of-business managers. Mr. Williams has charge of new business and merchandising and advertising with twenty-seven employees under him.

He has made a quite remarkable record in increasing the sales of residence and rural service in the communities served. Mr. Williams, although he does considerable traveling around the territory, lives in Appleton. He is thirty-eight years old and has had eight years of service with the company.

Q. What is the total number of employees of the company? A. I previously gave that at 443. —1,928—

Q. And what is the average length of service of the officers and staff heads? A. The officers and staff heads, whom 4328
I have just described in some detail for Wisconsin Michigan Power Company, average a length of service with the company, disregarding the companies that were predecessors to any portions of it, of 15½ years.

The Examiner: We will recess until 1:30.

(Whereupon, at 12:20 o'clock p. m., the hearing was recessed until 1:30 o'clock p. m. the same day.) —1,929—

4329

4330

AFTERNOON SESSION

(Whereupon, at 1:30 o'clock p. m., the hearing reconvened.)

The Examiner: The hearing will come to order. Are you going to start the cross examination?

Mr. O'Dell: Yes, sir.

The Examiner: Do you have any further direct examination?

4331 Mr. Hamilton: No, sir.

Whereupon, EDWARD H. SCHMIDTMAN having been previously sworn, resumed the stand and testified further as follows:

Cross Examination by Mr. O'Dell:

Q. Mr. Schmidtman, I think you testified before that you were a member of the operating research bureau which was run by the Wisconsin Electric Power Company for the benefit

4332 of all three companies? A. Yes, sir, I did.

Q. How are the charges and expenses of this bureau allocated among the three companies? A. All of the people employed in the bureau except the department head and the principal assistants are entirely on the payroll of Wisconsin Electric Power Company. A portion of salaries of the department head and the principal assistants are paid by Wisconsin Gas & Electric Company and Wisconsin Michigan

Power Company. When work is done in the department for either of the other two companies or for The Milwaukee

Electric Railway & Transport Company, the direct labor spent on that work is billed to the companies for which the work was done at cost.

There is no element of profit involved, but the total charges involved in doing the work are charged to the company for which the work was done

Q. This charge that is made to the individual company for whom the investigation is made, does that also include a portion of office expenses and general overhead expenses? A. Yes, that is correct. 4334

Q. I believe you also testified that the book value before depreciation of the properties of the three companies was $140,315,000.00? A. $140,315,612.00.

Q. How are those book values arrived at? A. Those are the figures carried in the books of the three companies for electric plant in service as of the end of 1939.

Mr. Browning: End of what?

The Witness: 1939.

(Discussion off the record.)

4335

By Mr. Maxwell:

Q. What is the basis for these costs? Does it constitute an original value set by the Wisconsin Commission at some

—1,931—

previous date to which has been added net additions? A. They represent the book value of the properties as indicated on the books of the companies. These figures include some items which represent differences between the recorded cost of the properties and the results of valuations made at different times for the different companies.

and valuation was made in 1914. The result of that valuation differed somewhat from the figure carried on the books of the company as fixed capital at that time.

The figures which I have given as book value do not reflect that difference between the appraisal and the recorded investment in property up to that time.

I testified that these figures were book value and we distinguished that figure from the figure carried in our property record which I spoke of yesterday, which property rec-
4337 ord figures are based on valuations plus additions and minus removals to date.

By Mr. O'Dell:

Q. Which is the higher figure—the book value figure? A. The book value is slightly higher than the property record figure. I don't have the exact differences in mind and the material I have here doesn't give those differences.

Q. Mr. Schmidtman, do you know of any arrangements for interchange of power where there is not common ownership? A. Could you expand the question a little? I don't
4338 —1,932—
believe I understand what you mean.

Mr. O'Dell: Read the question again.

(Whereupon, the pending question was read by the reporter.)

The Witness: Do you mean——

By Mr. O'Dell:

Q. (Interposing) I could expand that a little more. Do you know of any arrangements between a number of com-

panies operating in areas fairly close to each other where these companies are not owned by one company? A. Yes, I know of such arrangements. Do you mean arrangements in which one of our companies interchanges energy with a non-affiliated company?

Q. First, I will ask you if companies other than any of your own companies are involved in such arrangements? A. From my work in connection with the survey of power facilities in the State of Wisconsin, I know of places on the map where the transmission systems of non-affiliated com- 4340
panies make interchanges. As to the details of the interchange of power at those points, I am not informed.

Q. Do you know what companies are involved? A. I know of an interconnection between Northern States Power Company and Wisconsin Hydro electric Company and of an interconnection between Lake Superior District Power Company and a small system operating in the northwest portion of the State of Wisconsin. There may be other interconnec-

—1,933—

tions that I can't call to mind at the moment.

A number of the interconnections which we considered in 4341
the power survey of the State of Wisconsin were between operating companies belonging to the same holding company organizations.

Q. Do you know of the interchange of power agreement which exists between Commonwealth Edison Company and the Public Service Company of Northern Illinois, Northern Indiana Public Service Company, and Western United Gas & Electric Company? A. No, I am not familiar with those interconnections.

4342

Q. Are you familiar with the interchange of power arrangement between Pennsylvania Power & Light Company, Public Service Company of New Jersey, Philadelphia Electric Company and the Safe Harbor Hydro Station on the Susquehanna River? A. No, I know nothing of those interconnections. I have had no occasion to work with them or study them.

(Discussion off the record.)

4343

By Mr. O'Dell:

Q. Are you familiar with the Baltimore connection with the Potomac Electric Power Company? A. I have been told that such an interconnection exists and I have heard of it, but beyond that I can't give any information on it. I know nothing of how it operates or what amounts of power are interchanged or what the rates are.

Q. What is the general function of these interchange of

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power agreements? A. Of these that you have mentioned?

4344

Q. Yes. A. I don't know. I am not familiar with the interconnections and don't know for what purpose they were established or what functions they perform.

Q. I am afraid you misunderstood my question. I wasn't referring to the three specific agreements I mentioned, but generally speaking, what function do these interchange of power agreements serve? A. Generalizing, I believe it can be said that interconnections between the transmission systems of different utility companies are effected for the purpose of carrying out advantageous interchange of power

under the circumstances under which the companies involved in the interconnection are operating.

One can not speak specifically of the purposes of any interconnection without knowing exactly the circumstances under which that interconnection was established.

Interconnections differ widely from each other with respect to function and extent of interchange and various other aspects.

(Discussion off the record.) 4346

(Witness temporarily excused.)

—1,935—

Whereupon, GOULD W. VAN DERZEE having been previously sworn, resumed the stand and testified further as follows:

Direct Examination by Mr. Browning (Continued):

Q. I believe you testified yesterday, Mr. Van Derzee, that good employee relationships was one of the subjects which constantly occupied your attention and that of the three companies, is that correct? A. Yes. I previously testified to the importance of good public relations as viewed by the general executive officers of Wisconsin Electric Power Company. 4347

It happens that three of the general executive officers of Wisconsin Gas & Electric Company and also of Wisconsin Michigan Power Company are also officers of Wisconsin Electric Power Company, so it is quite natural that the policies of Wisconsin Gas & Electric Company and Wiscon-

4348 sin Michigan Power Company with respect to the importance of employee relations should be identical.

For a great many years, the managements of these companies have followed a policy of maintaining good public relations and employee relations. The two go together. At an early date, it was recognized that good reliable service at low cost could be rendered only by employees who were satisfied with their working conditions and the general

—1,936—

4349 treatment accorded.

Most of the occupations found in the business grow steadily more important and more specialized and this has increased the value of experience and has placed increasing importance on keeping employees in service for long periods.

A few of the instrumentalities for maintaining good employee relations will now be described.

One of these is the Employees' Mutual Benefit Association, which we believe has improved employee relations materially.

4350 On February 28, 1912, this organization, namely, the Employees' Mutual Benefit Association, was formed among the employees of The Milwaukee Electric Railway & Light Company, Milwaukee Light, Heat & Traction Company and its associated and subsidiary companies.

It was organized originally to provide a mutual benefit society and an organization to administer a newly created loan fund. The benefit society aspects of it were the more important.

The loan fund related primarily to the amount of money which the company arbitrarily decided to set up and to loan

without interest to any needy employees who needed to take care of a doctor bill or an overdue coal bill or some such purpose as that.

Its purpose also was to create a fund to provide medical assistance for members, to pay disability and death benefits and to foster and promote a spirit of good fellowship among the employees of the company.

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The benefits originally provided for sick benefit purposes were $1.00 a day when sick, a death benefit of $300.00 and 4352
free medical service for members. Now, that term "free" is probably not entirely correct because each member, in order to gain these services which he could have if he wanted, or not take if he didn't want, had to pay $1.00 plus 50 cents a month. $1.00 was a fee which was paid just once.

All employees of the companies were eligible to participate. For that 50 cents, the employee received at that time really expert medical attention. A very interesting thing in connection with the organization of the Employee's Mutual Benefit Association is the fact that it was devised and actually fostered and placed in operation by the president of 4353
the North American Company.

I don't think there has been any one thing that has been so far-reaching, not only for the welfare of the employees, but for the benefit of the company, than the establishment of Employees' Mutual Benefit Association at that time.

In the year 1918, the membership had grown to a point where it included most of the employees of The Milwaukee Electric Railway & Light Company as well as many of the employees of Wisconsin Gas & Electric Company and other affiliates.

4354 *Gould W. Van Derzee—By Respondents—Direct*

The benefits offered had been expanded materially and in addition the association had undertaken a new venture, name-

—1,938—

ly employee representation and collective bargaining.

The latter activity and increased costs of providing a greatly expanded program of benefits necessitated the support of all of the employees.

In the year 1918, membership was made a condition of employment. What happened at that time was really some-

4355 thing like this: The Company said to the Association, "You do all the employing; you provide all the people that are going to work for the company; you see that they are given educational facilities, that they are selected properly. Make one of the conditions of employment that they must belong to the Association" and that was the arrangement that was finally voted by the E. M. B. A. and a contract was entered into between the company and what I call E. M. B. A. for short, meaning the Employees' Mutual Benefit Association.

(Discussion off the record.)

4356 A. (Continuing) The contract which was entered into between the company and E. M. B. A. was known as a general labor contract and it constituted E. M. B. A. as the employing agent for the company.

That, of course, doesn't mean that E. M. B. A. could employ any type of person that was distasteful to the company and which it did not need. It meant that it was the employment manager and operated the employment office and pursuant to requisitions for employees needed by the company to the E. M. B. A., the E. M. B. A. employment office

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proceeded to employ those people pursuant to predetermined specifications.

The general labor contract provided in addition that every group of fifty employees could be represented in collective bargaining with the management and that was one of the first instances that I know of in which a public utility entered into collective bargaining which really became quite general in 1934. In the year 1934, employee representation and collective bargaining activities of the Employees' Mutual Benefit Association were discontinued. 4358

(Discussion off the record.)

A. (Continuing) The so-called general labor contract was entered into in 1918 and as a result of suggestions of the North American Company. As the Association now stands, it provides social and recreational programs, together with the following benefits:

Death benefit of $300.00; a sick benefit of $1.00 a day; hospital benefits of $2.00 per day for room and board and an allowance of $20.00 per case up to a maximum of $40.00 in one year toward additional hospital charge; free medical services to members and dependents including X-ray and pathological services and dental services at cost. 4359

The Association also carries on relief and welfare work among members and former members. Membership dues are now 75 cents a month. This amount is matched by an equal contribution on the part of the companies for the members

which are employees of such companies.

4360 *Edward H. Schmidtman—By Respondents—Cross*

The Examiner: We will finish with Mr. Schmidtman now.

Whereupon, EDWARD H. SCHMIDTMAN having been previously sworn, resumed the stand and testified further as follows:

Cross Examination by Mr. O'Dell (Continued):

4361 Q. The Wisconsin Gas & Electric Company and Wisconsin Electric Power Company have similar types of demand? A. Yes, generally they have. There is some variation in the time of occurrence of their annual peaks, but they both serve somewhat the same type of territory, although the industrial component of the load served by Wisconsin Electric Power Company is substantially greater than that of the load served by Wisconsin Gas & Electric Company.

As a result of this slight difference there is some diversity between the time of occurrence of the annual peaks on the systems of the two companies.

4362 Q. I believe, Mr. Schmidtman, that you had previously testified that the loads of the two companies fitted together. A. Yes, they do. Now, perhaps I should elaborate on what I just said. You will notice from my testimony that Wisconsin Gas & Electric Company serves a much larger rural area than does Wisconsin Electric Power Company and a

—1,941—

much larger number of rural customers.

The characteristics of that load naturally have some influence on the characteristics of the load of the system of Wisconsin Gas & Electric Company as a whole and the com-

bining of the load of that company with the load of Wisconsin Electric Power Company results in a composite system load which has a higher load factor than would have the loads carried by either system alone.

It would be most unusual for two systems serving types of loads with the differences I have just pointed out and not have a composite load of much more desirable characteristics than those of each one of the individual parts.

Q. Could the present interconnections between the three companies continue just as usefully and economically if the three companies were not subsidiaries of the North American Company? 4364

Mr. Browning: Just a moment. Could that question be clarified as to whether you mean that the three companies would be completely independent of each other? Do you mean that the three companies would be subsidiaries of some other holding company or that the three companies would be severed from each other?

Mr. O'Dell: I believe I will clarify it to the extent of saying that if the three companies were completely independent of each other. 4365

—1,942—

The Witness: No. The interchange or interconnection arrangements between the three companies would not continue to operate as they operate at present without the community of interests that exists between the companies.

4366 *By Mr. O'Dell:*

Q. Would you say that certain economies would be lost without this community of interest? A. Certain economies would be lost because the type of operation without the common interest would be changed. I can illustrate that——

Q. (Interposing) All right, go ahead. A. (Continuing) —very specifically, that in the interchange of power between the Wisconsin Michigan Power Company and the
4367 Wisconsin Electric Power Company, there are times of the year when Wisconsin Michigan Power Company is delivering large quantities of surplus hydro-electric energy into the system of Wisconsin Electric Power Company.

I have explained that the purchase of that surplus hydro-electric power results in economies to Wisconsin Electric Power Company as well as to Wisconsin Michigan Power Company, but the advantages to Wisconsin Electric Power Company are not of uniform magnitude throughout the periods of delivery of that energy.

At certain times during the periods of delivery, the loads
4368 on the steam power plants of Wisconsin Electric Power Company are lowered to such a point that those plants are

operating at greatly reduced efficiencies.

If it were not for the fact that the Wisconsin Electric Power Company and Wisconsin Michigan Power Company were operating in effect as one company, Wisconsin Electric Power Company would not be willing to take that surplus hydro-electric energy in such quantities as to cause such great reductions in steam generating efficiency.

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The receipt of such power would be reduced by Wisconsin Electric Power Company. The delivery of that power by Wisconsin Michigan Power Company would correspondingly be reduced and the water used in generating the energy which would be discontinued at that time, would be spilled over the dam and the electricity represented in that water would be lost.

Wisconsin Electric Power Company could, at certain times, realize some economies by not accepting that surplus hydro-electric power and would, therefore, improve its own 4370
position to some extent, but that improvement would not be as great as the loss to Wisconsin Michigan Power Company through not being able to generate that electricity and sell it.

The net effect under such circumstances would be an economic loss, as applied to the entire interchange arrangement. That is, the one company would lose more than the other company would gain.

Mr. Browning: Read that last.

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(Whereupon, the answer as above recorded was read by the reporter.) 4371

The Witness: By the one company, I refer to Wisconsin Michigan Power Company and by the other company I refer to Wisconsin Electric Power Company.

By Mr. O'Dell:

Q. I just want to clear something up from what you have just said. Is the effect of this interconnection between Wisconsin Michigan Power Company and Wisconsin Electric

4372 Power Company one where the Wisconsin Electric Power Company suffers by this interconnection? A. In total, no. There are times when the surplus hydro-electric energy delivered to Wisconsin Electric Power Company can be taken into the power supply of that company advantageously, but, as I have explained, the advantages of taking that power into the system of Wisconsin Electric Power Company do not run uniformly throughout the year.

4373 At times, the advantage is great, at times it is small, but it isn't a question, as the interconnection now operates, of whether Wisconsin Electric Power Company is making money or not, as long as both companies together are gaining benefit.

So, at the times when the load on the system of Wisconsin Electric Power Company is low, during the high flow season, in the early morning hours, for instance, and particularly during certain hours on Saturdays and Sundays, the loads on the steam plants of Wisconsin Electric Power Company

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4374 fall to most uneconomic levels because the company is taking into its system those large quantities of surplus hydro-electric energy from the north.

At other hours of the day, when the loads on the system of Wisconsin Electric Power Company are higher and there is sufficient demand to load up the units in operation to efficient loads, and at the same time utilize this surplus hydro-electric energy, then the receipt of that energy is beneficial to Wisconsin Electric Power Company to an appreciable extent.

What I am trying to make clear is that the advantage of using that surplus hydro-electric energy varies in accordance

with load conditions on the system of the receiving company. If those companies had no common interest and each was looking out entirely for its own interest, the company receiving that surplus hydro-electric energy would take it only when, as and if it wanted it regardless of whether the other company was spilling water and was urgently in need of a market for such energy.

Under the present arrangements, the energy is generated and a market is found for it in order to make use of the natural resource available in that falling water. 4376

Q. I believe you stated that in 1935, interconnection with the Public Service of Northern Illinois was discontinued. A. Yes, I did state that.

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Q. Why was it discontinued? A. It was discontinued at the insistence of Public Service Company of Northern Illinois.

Q. Do you know what their reasons were?

Mr. Hamilton: I don't know whether the witness is competent to testify as to what may have gone on in the minds of the officers—— 4377

The Examiner: (Interposing) He just asked him if he knows.

Mr. O'Dell: If he doesn't know he can say so.

Mr. Hamilton: All right.

The Witness: I understand by hearsay that the reason was that that company did not wish to engage in interstate commerce.

4378 *By Miss Calkins:*

Q. Mr. Schmidtman, on your direct examination, did you describe all of the inter-company servicing which exists between the Wisconsin-Michigan group of properties which your direct testimony covered? A. Probably not. I intended to describe the principal ones and it is entirely possible—in fact, it is entirely probable—that there are other inter-company relationships involving the joint use of property or the joint use of personnel which I didn't cover.

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Mr. Browning: If I may interject there, Miss Calkins, we are going to put in a great deal of additional testimony on that topic.

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Miss Calkins: Will the additional testimony also cover the method of allocating charges for all this servicing? Mr. Schmidtman barely touched on that in connection with some joint offices of Wisconsin Gas & Electric and Wisconsin Electric Power.

4380 *By Miss Calkins:*

Q. I believe that was covered in your testimony? A. Yes.

Q. And this research department was paid for by all the different companies to maintain the research department of the company with which you are connected?

(Discussion off the record.)

Miss Calkins: I only want to get this straight. Some place in this record, either at the present time or on cross examination of Mr. Schmidtman, or on the

direct testimony of other witnesses, or their cross examination, I want this record to show a complete description of the inter-company servicing and the method of allocating the costs of that servicing among the various companies.

Now, if that will be a little bit later, I won't examine Mr. Schmidtman on it.

Mr. Hamilton: I think the record will show that in almost every instance, at least which I have in mind at the moment, the statement was made that 4382
that was paid for at cost.

Miss Calkins: The method of determining that cost is another question.

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(Discussion off the record.)

By Miss Calkins:

Q. Mr. Schmidtman, are you familiar with the method of allocating the costs of maintaining the joint offices of Wisconsin Gas & Electric Company and Wisconsin Electric 4383
Power Company? A. That is right.

Q. Which you have previously referred to in your direct testimony? A. Yes, I am familiar with those matters.

Q. Will you state the method of allocating the costs? A. The joint offices to which you refer are those located in Racine where Wisconsin Gas & Electric Company and Wisconsin Electric Power Company share the office buildings owned by Wisconsin Gas & Electric Company and make joint use of office facilities owned by that company and of personnel on the payrolls of both companies.

4384 *Edward H. Schmidtman—By Respondents—Cross*

Each year a survey is made of the use of floor space and of office facilities and of office personnel in carrying out the operations which are performed jointly by the companies in these offices.

The work performed by each individual who is doing work jointly for the two companies is studied to determine how much of his output is devoted to the service of each company, and the salary of the individual is divided between the two companies on a percentage based on that division

4385 —1,949—

of work.

In the case of floor space, measurements are made to determine how many square feet of floor space on each of the floors of each of the buildings, of which there are three, is used by each company.

The investment in each building is taken into account to determine proper fixed charges on each of the properties. Those fixed charges are divided between the various floors in proportion to the value of those floors for the purposes for which they are used and the floor space on each floor

4386 is then assigned to each of the companies in accordance with the space actually utilized by each.

From those figures, the rental for land and buildings is computed as of conditions obtaining at the end of October in each year.

The wages are divided, as I have indicated, on the basis of output of the people. That can be illustrated by taking a billing clerk as an example. The billing clerks make out the bills for the electric and gas service of Wisconsin Gas & Electric Company and for the electric service of Wisconsin Electric Power Company.

The number of bills produced by each clerk for each of the companies furnishes the basis for dividing the wages of that clerk between the two companies.

Q. Is that for the previous year or for the forthcoming

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year at the time that survey is made? A. The survey is made at the end of October, covering use of floor space and facilities at that time, but the division of payroll is based upon the previous month's output of the personnel involved in the joint operations. 4388

Q. So there is a reallocation of the payroll every thirty days? A. No; the division of payroll and of rental that is worked out at the end of October becomes effective on the first of January next succeeding and remains in effect for the following calendar year.

The period between October 31 and January 1 is allowed in order to give sufficient time to make the survey and make all the computations and complete the report.

Q. There is a reallocation yearly? A. An annual reallocation of those charges, yes.

Q. And each company pays for the forthcoming year 4389 on the basis of the work done for the prior year and over a period of years that is supposed to balance things, is that correct? A. Yes, that is correct. The basis of allocation for any calendar year is the report prepared as of October 31 of the preceding year.

Q. Then, is every individual jointly employed by those two companies paid on that same basis? I mean, does that method apply to everyone of the joint employees? A. That

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4390 *Edward H. Schmidtman—By Respondents—Cross*

method applies to everyone of the joint employees working in the Racine offices.

There are other joint employees in sales work who are not included in this arrangement and whose wages are divided between the companies on the basis of direct hours devoted to the work of each of the companies.

Q. Is there any general overhead which has to be allocated? A. In the case of the wage and rental agreement, there is no general overhead because the agreement—and by
4391 the wage and rental agreement, I refer to the annual revision of the division of wages and rent for the Racine offices —that agreement is made in sufficient detail to cover all components of cost involved in the joint operations.

It includes the salaries of all people as far up as the Racine Division manager, who devotes a part of his time to the electric operations of Wisconsin Electric Power Company and to the electric and gas operations of Wisconsin Gas & Electric Company.

The rental for buildings includes no item referred to as general overhead because it includes fixed charges directly
4392 and it includes all expenses of operating and maintaining the buildings as direct operating expense.

Those components of operating expense are included as a part of the amounts paid under the name of rental for buildings.

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Q. Is this inter-company arrangement, of which we have just spoken, under the jurisdiction or supervision of the local Commission there? A. Under the jurisdiction of the Wisconsin Public Service Commission.

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Miss Calkins: I think that is all.

The Witness: The general contract under which this joint use is made of facilities and personnel, is filed with the Public Service Commission of Wisconsin and the filing states the basis under which the arrangement operates and also states that it is revised annually on the basis I have just described.

By Miss Calkins:

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Q. There is no possible profit to either of the participating companies that would arise by virtue of that? A. No, there is no possible profit. In fact, the agreement is worked out each year by the operating research bureau. The labor devoted to the investigation and preparation of the report is divided equally between the companies on an hourly basis After the report has been finished, it is submitted to the officers of Wisconsin Gas & Electric Company for approval before being made effective.

Their auditors check over the report in detail and the rentals set forth in the revision are made effective only upon approval by both companies.

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Q. Do these joint employees get two checks then? A. No.

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The joint employees are paid by one company or the other, but a monthly billing is made by Wisconsin Gas & Electric Company to Wisconsin Electric Power Company because the latter company makes use of more personnel and facilities of the former than does Wisconsin Gas of Wisconsin Electric Power Company.

The net amount due Wisconsin Gas & Electric Company is billed monthly to Wisconsin Electric Power Company and

is paid. Some of the employees who do work for both companies are on the payroll of Wisconsin Gas & Electric Company and some are on the payroll of Wisconsin Electric Power Company, but, as I say, the buildings belong to Wisconsin Gas & Electric Company and more of the joint personnel are on the payroll of that company, so the monthly payments go to that company.

Miss Caikins: I think that is all.

4397 We would like to reserve the right to recall Mr. Schmidtman if it becomes necessary at any later time in the proceedings.

Mr. Hamilton: We understand that it isn't necessary for us to note our objection to that procedure.

The Examiner: Yes, I think our understanding is clear, but I think this witness here ought to be fully cross examined. This company ought not to be required to bring him back at its expense.

(Discussion off the record.)

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Redirect Examination by Mr. Browning:

Q. Mr. Schmidtman, you were cross examined about the benefits resulting to Wisconsin Electric Power Company, Wisconsin Gas & Electric Company, and Wisconsin Michigan Power Company, from their inter-company purchases of power. Do I understand correctly that in making the arrangements which have been made you consider the three companies as one and that the operations are for the benefit of the entire group? A. Yes. That was the basis for the

entire arrangements for the interchange of power between the companies of the group.

Q. Counsel asked you whether there were "certain economies" due to the close association of the companies and you replied that there were certain economies. Are those economies small or substantial? A. They are substantial.

Q. Would there be a large loss if the three companies were severed? A. Yes, that loss would be large. It would be difficult to estimate it in so many dollars, but it would be an 4400
appreciable amount because, as I have explained, the nature of the operations of the companies has been based entirely on the assumption that they have a common interest and so far as power production and transmission is concerned, they operate as one system.

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Mr. Browning: That is all.

The Examiner: Anything further, Mr. O'Dell?

Mr. O'Dell: Do you mind reading Mr. Browning's last question and the answer, Mr. Reporter?

(Whereupon, the last question and answer 4401
above recorded was read by the reporter.)

Recross Examination by Mr. O'Dell:

Q. When Mr. Browning used the word "severed" in his question, did you take that to mean that the three companies are no longer being subsidiaries of The North American Company? A. I understood him to mean that the three companies would no longer be subsidiaries of any one company.

4402 The Witness: Is that what you meant, Mr. Browning?

Mr. Browning: Yes. That is, I meant that they would no longer be under common ownership.

By Mr. O'Dell:

Q. Don't you think that regardless of whether these companies are under one common ownership or not, the economies that they have experienced to date through working
4403 together the way you have explained would be sufficient to cause them to continue with these same interconnections? A. No, I don't think that is true—definitely. I don't seem to have gotten the idea across that the benefits realized by the companies through their interconnected operations have re-

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sulted from a basis of operation which is carried out in the interests of all three companies as a whole.

Because of this basis of operations, the economies realized by one company of the group, let us say, have been reduced somewhat by the consideration given to the welfare of the
4404 other companies, to the effect that the total over-all benefits will be a maximum.

If these companies did not have the common interest, which they have, and each one was looking out entirely for itself, they would be less willing to consider the welfare of the others than they have been.

The most concrete example I can give you is the one I have already given concerning the use of surplus hydro-electric energy by Wisconsin Electric Power.

Q. Yes, but didn't you state there that the advantages accruing to the Wisconsin Electric Power Company in peak

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times exceeded the disadvantages that Wisconsin Electric Power Company might have suffered at times when demands on their system were not so great? A. Yes, I did and I am glad you put it that way.

Q. So that advantageous effect would always induce the company to go into these arrangements? A. No, you are not right there. The gross advantageous effect would be what the company would get if it were looking out for itself. It wouldn't except the loss during the low load periods that it

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is now accepting in order to benefit Wisconsin Michigan Power Company.

Q. You stated though that the net effect between the two companies was one of advantage to the Wisconsin Electric Power Company? A. Yes, it is.

Mr. Hamilton: I think the witness has testified in his direct examination, and has given dollar figures to indicate the benefit to both Wisconsin Electric Power Company and to Wisconsin Michigan Power Company for the years 1938 and 1939.

4407

The Witness: I do want to make it clear though at this point that it is not logical to assume that inasmuch as both companies benefited from this arrangement and also inasmuch as the operations were carried on so that the joint benefit of both companies was a maximum, that each company received the greatest benefit it could have obtained had it not considered the welfare of the other.

Wisconsin Michigan Power Company received appreciably more benefit from this interchange because

4408 of the fact that Wisconsin Electric Power Company considered the interests of Wisconsin Michigan Power Company in taking off the hands of the latter company the surplus hydro-electric energy which it had at a time when Wisconsin Electric Power Company was not particularly anxious to use it.

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By Mr. O'Dell:

4409 Q. Aren't there other situations as a result of this community of interest, where, we will say, Wisconsin Electric Power Company benefits perhaps at the expense, in a particular situation, at the expense of the Wisconsin Michigan Power Company? A. If you mean by benefiting at the expense of the other, the sale of service to the other at a reasonable price, the answer is yes. If you mean benefiting unfairly to the detriment of the other the answer is no.

Q. I don't mean to infer that there is any ultimate detriment to the company as a result of any sort of agreement be-
4410 tween the two companies. A. There is no question but what the arrangement is beneficial to all of the companies. That is the intent of the arrangement.

Q. My question originally was this: That in view of this arrangement, of the benefits that accrue to all of these companies because of the close relationship and the agreements, and so forth, that exist between the companies, wouldn't those things continue in effect without having all of these companies being subsidiaries of The North American Company? A. The answer is still no, definitely.

Q. Aren't these economies that these companies have experienced in the past sufficient to induce them to continue it

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regardless of whether they are under common control or not? A. The net results would be different because under the type of operation that these companies carry on, one company is willing to accept less of a benefit in order that the total benefit realized by the group may be more.

If the group interests were not present as they are, that consideration would not enter into the arrangements. 4412

Mr. O'Dell: Mr. Examiner, I have no other questions.

The Examiner: All right. Have you anything further, Mr. Browning, or Mr. Hamilton?

Mr. Browning: No.

(Witness excused.)

(Discussion off the record.)

The Examiner: We will take a short recess.

(Whereupon, a short recess was taken.) 4413

Whereupon, GOULD W. VAN DERZEE having been previously sworn, resumed the stand and testified further as follows:

Direct Examination by Mr. Browning (Continued):

Q. Will you tell us about the Employees' Mutual Savings Building & Loan Association? A. I happened to have been the first president of that Association and I recollect quite

4414 distinctly some twenty-six years ago in 1914, going around

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to the car stations in different locations of employees on the property, and telling them about the advantages of starting what was then called a Building & Loan Association; it was an idea that Edwin Gruhl had that he thought would be of great benefit to the employees of the company.

I remember he had a dummy of articles of incorporation worked up and an insignia on the back of it of a dollar sign
4415 that was made up of two letters, systematic savings. He really originated the idea and set us to work on the formation of the Association.

Q. Who was Mr. Gruhl? A. Edwin Gruhl was later president of The North American Company, but at that time, I believe the records will show, that he was assistant to the president or he might even have advanced to vice president. I can't remember. But he was one or the other.

The Association was finally established on March 28, 1914, and I remember very distinctly the qualms that I had
4416 of getting up and making a speech to a large body of employees with the president of The North American Company sitting in the front row.

They were very close to the property at that time, as they have been most of the time.

The Association was finally established under the banking laws of the State and it grew over the years to be the

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second largest savings and loan association in the State of Wisconsin.

It has the unique record of never having to defer a demand on the part of a paid-up stockholder or instalment stockholder for withdrawal of funds.

It went entirely through the depression without stopping payment of any kind and paid dividends at a reasonable rate. It is highly regarded by the employees of the company as an investment medium.

I do not mean to indicate that it did not suffer some severe losses in the depression in the form of properties that had to be taken back and resold, but it had a better record 4418
because most of the membership was made up of employees and former employees.

On June 30, 1940, there were 6,687 stockholders who held a total of 134,711 shares of stock. On the same date, the Association held 1,617 mortgages most of which were on homes of employees or former employees.

In encouraging the establishment and growth of this institution, the management encouraged thrift and home ownership among employees as one of the aids in bettering employee relationships.

Q. What were the total assets of the Association on June 4419
30, 1940? A. $6,330,506.00.

Q. Now, will you tell us about the gain-sharing plans of

the companies? A. The term "gain-sharing" plan is used by our companies to mean what is popularly known as a bonus plan.

In 1911, the first wage incentive plans were put into the shops. Those plans were essentially a piece rate for machine operations. They were not particularly satisfactory. They

were followed by a premium plan in the shop which has been satisfactory.

About in 1913, someone got the idea that it would be a good thing to increase the number of bonus plans and apply them to almost every operation where the output could be measured and one of the early ones I recollect was in the meter reading department.

We made careful studies of the amount of time required to read meters, then we concluded that if the meters could
4421 be read accurately in less time by any individual on his route, that it would be proper to divide the net savings between the individual and the company 50-50 after subtracting some 20 per cent. of the net gain for administration of the plan and that generally is the basis that has been followed for a great many years.

We have very substantially reduced the cost of meter reading by that incentive plan.

A demand for bonus plans grew rapidly after the establishment of the first ones and in February, 1928, 84 per cent. of the employees of The Milwaukee Electric Railway
4422 & Light Company were participating in bonus plans and a

substantial number of employees in the Wisconsin Gas & Electric Company were working on similar plans.

On May 31, 1940, 70 per cent. of the employees of the Wisconsin Electric Company and 59 per cent. of the employees of Wisconsin Gas & Electric Company were participating in bonus plans.

On the same date, there were 175 bonus plans in operation in the two companies. Bonus earned by employees now ranges from about 3½ per cent. to 50 per cent. of their

guaranteed wages and their variation is due to differences in the ability of the employees, differences in supervision, and to many other conditions affecting the quantity or quality of the work done.

In the year 1939, bonus payments made to employees of Wisconsin Electric Power Company amounted to a large figure of $647,150.00 and that was in addition to their basic wages and was an average of about $320.00 per employee.

That has nothing to do with what is commonly known as a year-end payment made by some companies and called 4424
a Christmas bonus.

This is the result of meeting the standards of work which have been set by an amount, the value of which is divided between the company and the employee, after taking away 20 per cent. for administration.

Plans have been established on jobs of almost every de-
—1,964—
scription. The fundamental basis for the establishment of any of these plans may be either a time allowance for a specified routine operation, accuracy and quality of the work or a combination of both. 4425

I have given you an example of the basis for measurement of time plan; an example of a quality plan is the plan in effect for sub-station and power plant operators which provide that a certain bonus will be paid if controllable outages are reduced below a certain limit.

Additional bonus is paid on the plan if material and supplies consumed are below a certain amount, if costs of maintaining equipment are held below a certain figure and if errors on load sheets are reduced below a certain standard.

4426 Bonus plans operated in these companies have been some of the most successful ones developed, we believe, anywhere in the country and their success is attributable to the fact that they were developed only after a very careful study and were designed on sound principles.

They have been fair to the employees and have received their support. Probably Mr. Schmidtman had something to say in his testimony about these matters. But I recollect that in my statement of the different divisions of the oper-
4427 ating research bureau, that is one of the divisions that was devoted to the maintenance of these plans.

Obviously, you must keep right after them and if the condition changes by the introduction of a machine or you

—1,965—

decide to do something in a different manner, you must correct the plan promptly and intelligently.

Now, actually, we have an agreement with the unions with which we operate so that no changes are made in these plans unless they have the approval of the union and the department head of the company.

4428 There is a by-product of these plans that I want to discuss very briefly and that is one of the determination of unit costs. We have studied with time study men over and over again most every operation that is performed in carrying on the business of electric service.

It is natural that we get a very large collection of unit costs. Those unit costs, I think, have been very valuable to us in determining whether work is done effectively. They help us in estimating for one thing what the cost of future projects will be, where those projects are of a construction nature.

There is another by-product which isn't generally recognized and which may have something to do with what I believe to be the relatively low unit cost we have in many operations and that is when an employee knows that if he slackens work, if he does poor work, he is going to have something taken off of a component of his wage, he is likely to put forth his best effort in his own interest.

That, in a measure, tends to minimize the necessity for

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supervision and if there is any one thing that these plans do, they tend in a measure to supply a certain degree of automatic supervision.

I don't want to leave the impression that you can establish a bonus plan and then tell the boys to go to work and supervisors can go home. They can't. You have to have proper and adequate supervision, but I think the amount of it is lessened because of the interest that the employee has from a dollars and cents standpoint in doing his best work.

So I think that these plans may be added very logically to the list of things that has tended to improve employee relations.

Q. Do you have any pension plans? A. In 1912, when the Employees' Mutual Benefit Association was formed, a pension plan was adopted for the employees of The Milwaukee Electric Railway & Light Company and The Milwaukee Light, Heat & Traction Company, as a part of its activity. The pension plan was established, naturally, for the purpose of providing a retirement income for employees who were beyond a certain age or incapacitated in service.

The plan provided pensions for employees of 60 years or older having fifteen years or more of service at that time,

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and there were disability pensions for employees under 60 having fifteen years or more of service.

The disability pension has to be approved by the medical

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director and he has to assert that the man is incapable of further work and under those conditions he receives the same magnitude of pension that another man who is older would receive under similar basic conditions of wages, but only for a period of 14.1 years.

4433 From the beginning, the companies undertook to provide the money for the pensions and they have supported the plan down to the present time.

The original plan in 1912 made no definite provision for a trust fund, but in October, 1922, the agreement generally under which we are operating now was executed between the companies on the one hand, a trust company, and the E. M. B. A. on the other.

This provides for the company contributing to the pension fund as later modified, three-quarters of one per cent.
4434 of the operating revenues of the company, and the payment of pensions after certification by a pension board. At the present time, Wisconsin Electric Power Company and The Milwaukee Electric Railway & Transport Company have 275 pensioners and Wisconsin Gas & Electric Company has fifteen.

Wisconsin Michigan Power Company is a much younger company and so far hasn't felt the need for a pension system.

We have another association which we think is productive of good employee relations and that is the veterans

association. We think it has encouraged somewhat sustained employment.

—1,968—

On September 18, 1916, the veterans association was formed to provide an organization without dues for employees of The Milwaukee Railway & Light Company, Milwaukee Light, Heat and Traction Company, and their associated companies, for employees who had been continuously in service for a period of twenty years or more.

The veterans association embraces employees from all 4436
three companies. As a matter of fact, it embraces the employees of all four companies, but we are dealing here primarily with the electric utilities and the three companies that are referred to here are Wisconsin Electric Power Company, Wisconsin Gas & Electric Company and Wisconsin Michigan Power Company.

Q. And the fourth company was a transport company? A. Yes. And on June 30, 1940, Wisconsin Electric Power Company had 417 veterans, Wisconsin Gas & Electric, 108, and Wisconsin Michigan Power Company, 46, a total of 571 employees of those three companies who, at that time, had 4437
been with the companies for twenty years or more.

It is a matter of fact that the employees of the transport company are generally older as they usually are in the older business of transportation, and there are over eight hundred veterans in that company, so that before the separation was made in October of the transportation and the electric business, we had somewhere between one out of four and one out of five employees of the old The Milwaukee Electric Railway & Light Company, who had been in the service of the com-

—1,969—

pany twenty years or more.

We have a special insignia that I have referred to once or twice as a double veterans' medal. That is really a very artistic thing that the veterans appreciate not so much from that standpoint as for what it really stands for and that is given when an employee has been in the service of the company for forty continuous years.

On June 20, 1940, there were nineteen double veterans in the three companies distributed as follows:

Wisconsin Electric Power Company, 14; Wisconsin Gas
4439 & Electric Company, 1; Wisconsin Michigan Power Company, 4.

Among those who have attained such a remarkable record of service are Mr. S. B. Way, president of the three companies; Mr. F. J. Boehm, secretary and treasurer; Mr. James D. Shaw, director and counsel for Wisconsin Electric Power Company. Although Mr. Way's service record, as described with respect to his being a director, shows only twenty-eight years with the company, he has had forty years with associated companies, namely, the predecessor of the Union Electric Light & Power Company where he worked before
4440 he was sent by The North American Company to come to Milwaukee.

Q. Have you other associations among employees? A. We have what is called the technical league. The technical league has dues of only 50 cents a month and the aims and

purposes of the technical league is to give to men and women employees who are so interested and want to learn more about the business, an opportunity to come to monthly meetings which are well arranged by the officers of the league and cover important developing factors in the business.

One of the by-products of this league is an arrangement under which prize papers are submitted by employees who have ideas on useful things that can be tried by the company, and they are given annual prizes for the best papers.

At a recent management staff meeting, the nature of which I described yesterday, we had over twenty-five of those papers which had just been submitted. The purpose of bringing them to the management staff meeting was to talk about them around the table and make certain that every idea that was good was to be adopted, and there were several ideas 4442
written by these men down the line which were very good and which are being adopted as standard practice.

We think there is great value in encouraging the development of ideas from the bottom up and in recognizing the production of those ideas suitably.

I have no doubt that the men who developed the ideas which were adopted by the company valued the fact that the staff had looked them over and adopted them much more than the fairly substantial money consideration that went with the winning of the prize.

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We have also what we call the Meral Club, which promotes fellowship among women employees. That name "Meral Club" is a hangover from the old Milwaukee Electric Railway & Light Company, M-e-r-a-l being the initials. They still retain the name, although it isn't applicable.

The Meral Club has monthly meetings of a social and educational nature. They have 301 members and a majority of them are office employees of the Wisconsin Electric Power Company.

We also have labor organizations and it would probably be proper to state here the nature of the labor organizations because we believe that the proper handling of labor matters goes a long way toward good employee relations.

We have the following labor groups which have been recognized as bargaining agents. Sometimes it is quite a task to keep all these negotiations on an even keel.

There are so many different ideas as to what constitutes what they should get by bargaining. We have the Amal-
4445 gamated Association of Street Railway & Motor Coach Employees of America, Local 998, representing certain employees of the purchasing and stores department of Wisconsin Electric Power Company, and the transportation employees of Wisconsin Gas & Electric Company.

If I were also discussing the transport company, I would say that this same organization represents the employees of that company.

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We have the International Brotherhood of Electrical Workers, Local No. 494, representing electrical operating
4446 and maintenance workers of the three companies—that is, Wisconsin Electric Power Company, Wisconsin Gas & Electric Company, and Wisconsin Michigan Power Company, who operate in our service area.

There is the United Association of Office, Sales & Technical Employees, Local No. 2, representing office workers and miscellaneous employees of Wisconsin Electric Power Company in Milwaukee.

We have the Public Service Employees Union of Wisconsin, representing office workers of Wisconsin Electric Power Company and Wisconsin Gas & Electric Company in Racine

and Kenosha. That is, it is primarily a Wisconsin Gas & Electric Company Labor Union, but extends to these employees.

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We have the International Union of Operating Engineers, Local No. 317, representing the power plant operating and maintenance workers of Wisconsin Electric Power Company and Wisconsin Gas & Electric Company.

Then we have the Gas and By-Products Coke Workers, Local No. 12,005, representing the gas workers of Wisconsin Gas & Electric Company, and, last, we have the Wisconsin 4448
Michigan Utility Operators Union, representing gas workers and office workers of Wisconsin Michigan Power Company.

I think I can say that, with the exception of workers above the grade of working foreman, all of the employees of our companies belong to some form of union—A. F. L. sponsored, one C. I. O.; and two or three independents.

A. F. L. sponsored, one C. I. O.; and two or three independents.

Although there are many problems to handle in connection with such a large number of unions, with very naturally different views on matters, we have been reasonably successful in showing them and having them agree that a certain degree of uniformity and basic labor philosophy, in its application to our group, is the thing. 4449

Various organizations and means discussed above have all contributed to good employee relations, and no doubt have been a big factor in the stabilization of employment.

In addition to this, we have always maintained a good wage standard and we have always tried to maintain a policy of fair dealing with our employees.

—1,974—

4450 I think the following tabulation, showing the approximate length of service of employees of these companies, is some evidence of results achieved, and I will give you just a few figures which can be readily taken down.

This refers to the number of regular employees of the companies:

In the three companies, the record shows that the length of service in years between zero and five years is such that 30 per cent. of employees are in that range.

4451 There are 12 per cent. of the employees in the range of six to ten years, 26 per cent. in the range eleven to fifteen years of service, eighteen per cent. who have been with us from sixteen to twenty years, and fourteen per cent. who have been with us over twenty years.

Mr. Browning: We will now take up all of the various companies in the group, and the different businesses in which they are engaged.

Of course, some of these companies, such as the three electric companies, have already been described
4452 in considerable detail, so that we need not go into the electric business at this point.

By Mr. Browning:

Q. Will you cover, briefly, Mr. Van Derzee, the companies which are included in the Wisconsin Michigan group of subsidiaries of The North American Company, indicating

briefly the nature of the business of each? A. Wisconsin Electric Power Company is engaged principally in the generation and transmission, distribution and sale of electrical

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energy, but it also engages in some other operations incidental to the rendering of electric service. It operates a steam heating utility.

The area served by Wisconsin Electric Power Company with steam heating is not large, and it includes only a section of downtown Milwaukee; at the end of June 1940, there were 968 steam customers.

At the same date, the Company owned 21.22 miles of steam mains.

4454

During the year 1939, to show you the magnitude of the system, there were sold 1,308,456,000 pounds of steam, from which sale the revenues derived were less than 2.7 per cent. of the total operating revenues of this company as compared with 2.9 per cent. in 1930.

Q. Are the heating operations of the Company valuable to the electric business? A. We believe that they are, and, to bring out the point, it may be advisable to review a little history about the developemnt of steam heating utilities.

The prime movers in the early days, which furnished the power for the electric generators, were principally re- 4455

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ciprocating engines, and the exhaust steam from those old engines was usually sent out to the atmosphere.

Later, crude types of condensers were used to increase the economy, but electric utilities found that the exhaust steam could better be used in a steam heating system, and there was a real demand for that type of service.

After the service was established, many buildings were built in the downtown area, without any provisions for local heating, and consequently it was quite natural that the busi-

ness expanded, and that it took on some air of having public convenience and necessity.

The steam heating business is now operated by Wisconsin Electric Power Company, and it is a valuable adjunct to the electric operations.

There is a sales aspect in connection with this, that might be discussed at this time, and the nut of that is that, if customers in downtown buildings have a means of getting steam, they are less likely to generate their own electricity, while,
4457 if they do not have a means of getting purchased steam, they have to put in boilers anyway, and they can merely enlarge the boilers and buy an engine and generate their own electricity. While they may not have been what was in the minds of the original promoters of a steam heating distribution system, it very decidedly is a means of keeping the electric business in the downtown area now.

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Q. Have you any new developments in steam turbines, which have coordinated the steam heating and electric operations of the Company? A. Yes, we have several. In the year
4458 1938 a new steam turbine was installed at the East Wells Street Power Plant, having a capacity of 13,700 kilowatts, and that machine was designed as a by-product turbine, so-called, because the steam was generated at a high pressure and passed through the turbine, obtaining work from it, and then exhausted into the heating system at a pressure of approximately 25 pounds.

By the addition of a comparatively small amount of energy in the heat, to raise the pressure to 650 pounds at which the boilers operate, you are able to take out a tremendous amount of energy in expanding that steam down

the pressure of the heating system, through the medium of the turbine, which generates the electricity, and the steam that is left is, for all practical purposes, just as good for heating operations as if it had been developed in a separate boiler entirely, for that purpose.

We are now putting one in at Commerce Street, having a capacity of 35,000 kilowatts.

That turbine will be installed the latter part of 1941. It is called an extraction type turbine, and we not only take steam off at around 25 pounds for the low-pressure heating 4460
system, but we can take it off at 160 pounds for other uses.

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Those other uses would be the transmission of high pressure steam in feeders out long distances to points where the main pressure was sagging.

Something like the analogy in the electric transmission system, where you send out high tension energy to a low tension system, to improve the voltage.

Also, we have a few customers who are buying high pressure steam for various purposes and, for that purpose, we have a set of high pressure mains which are tapped for such 4461
customers. These two developments indicate very clearly that steam and electricity are produced together.

They could not be separated with advantage to the system. There would be serious losses of economy if it were necessary to separate the steam distribution system from the source of supply at the exhaust of the turbine.

This is very helpful to the consumer. I think it is evident that the city is cleaner, having two large stacks with controlled smoke, than if each one of these 968 customers had smokestacks giving off black smoke.

4462 We know that the small individual smokestack is not regulated like the big stack of a public utility.

Also, there is less traffic on the streets on account of hauling large quantities of coal to our plants at night than there would be if coal were being supplied to 968 separate boiler plants.

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So there is a very definite civic betterment involved in this.

4463 Customers are, of course, not so much interested in that as they are in the savings that result from joint electric and steam operation, and that comes about by virtue of the fact that the cost of a single steam boiler and extraction turbine, designed to provide the joint functions of electric generation and steam production, is a great deal less than if you were to install a separate heating plant and a separate generating plant.

The economy goes beyond any question of plant investment, which is substantial.

4464 We find a great economy in the joint force that operates the turbine within the plant.

The fact that steam is sent out to the heating system, for example, as well as generating electricity before it goes to the heating system, does not add any particular responsibility to the man that is operating the turbine. You don't have more men operating a turbine on account of that, and hence there is an economy in labor in the plant.

All the way through the plant you have the same economy because the same force has its time charged into two operations, and that economy in labor also extends to economy

in supervision outside of the plant, all the way up to the officers.

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Q. What is Wisconsin General Railway? A. Wisconsin General Railway is a wholly-owned subsidiary of Wisconsin Electric Power Company, which was formed for the purpose of acquiring title to real estate.

One of the principal advantages of the subsidiary was in connection with purchases of rights of way for transmission and railway lines, or pieces of property for sub-stations. I 4466
think it is common knowledge that a public utility going into the market can't always disclose just exactly what it is going to do, and hence, of necessity, somewhat larger pieces of land are frequently acquired than would be the case if the Company could buy exactly what it wanted at a reasonable price.

Just suppose, then, that a right of way was wanted across a small farm, the right of way was an extensive one, requiring 200-foot width for, say, a double circuit power line and a parallel 26,000 volt line, and we bought twice as much land, in connection with that operation, as we would have 4467
bought if we could have taken the exact slice we wanted and gotten it at a reasonable price.

The practical application of Wisconsin General Railway in a consideration of that kind is that, after buying the entire parcel of land, the property was charged to Wisconsin General Railway property accounts, and then the exact piece needed for the transmission line would be charged to the account of the company that was really going to use the land, and the balance of the price that would be left on the books

—1,981—

of Wisconsin General Railway was estimated to be a figure at which there might be reasonable expectation of disposing of the property at then current markets.

By having the excess land in Wisconsin General Railway, it was easier to sell the land later, because it was not necessary to have the excess property released from the mortgages of the operating utility.

We have been reducing the amount of land as rapidly as sales could be made effectively, and at the present time con-
4469 sideration is being given to applying the net assets of Wisconsin General Railway against the debt to Wisconsin Electric Power Company, which has advanced the money and disposing of the stock.

Q. Wisconsin General Railway has no activities or operations except the rental and management of this real estate? A. Those comprise all of the operations of the Company.

Q. Now, will you describe for us The Milwaukee Electric Railway & Transport Company? A. The Company which you have just named is a wholly-owned subsidiary of Wisconsin Electric Power Company. It conducts a local trans-
4470 portation business in the metropolitan area and a small transportation business in the city of Racine. The Company has recently disposed of most of its Racine transportation

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business, which was done by bus, and has retained only that part which is still provided by street car, and it is expected that that will be discontinued, so that the Company will have, in the near future, no transportation operations in its ownership in the city of Racine.

It also operates interurban transportation service between Milwaukee, Racine and Kenosha; Mill Port, Washing-

ton and Sheboygan; and Milwaukee, Waukesha, Oconomowoc, Watertown and Madison.

In giving that list of cities, to which interurban service is furnished, I am not attempting at this time to state whether it is done by rail service or bus service.

The Milwaukee Electric Railway & Transport Company, commonly known as The Transport Company, presently operates 370 miles of single track.

On this track trolley cars and buses operate over 366 miles of street and highway. 4472

To give you an idea of the magnitude of the business done, during the year 1939, 31,090,018 vehicle miles were operated and 161,380,714 revenue passengers were carried.

The Company operating revenues amounted in 1939 to $9,291,858.00.

The outlying business of the Company is being reduced—that is, property is being abandoned which is known as interurban property, as fast as it can economically be abandoned.

—1,983—

Certain lines, which are not paying their direct operating expenses, are the ones to which the Company is directing its attention, so that those losses will be cut off. Within recent months the Company has been able to abandon about 38 miles of single track and rail service to a number of communities, but it has substituted bus service, which is more flexible and less expensive under the circumstances, particularly that a continuation of the roadbed and rail would require considerable expense for maintenance and replacement in the future. 4473

Before the organization of The Milwaukee Electric Railway & Transport Company on October 21, 1938, the opera-

4474 tions now carried on by this Company, as you know, were part of The Milwaukee Electric Railway & Light Company.

The transportation business of this company and its predecessors preceded the development of the electric utility operations and constituted the foundation upon which the electric business was built.

I don't remember the exact date that electric railways came into operation throughout the country, but I do remember looking out the window one night, when I was a boy,
4475 in the city of Green Bay, and seeing the first street car go up Walnut Street, in 1894.

I remember it because I was told to look out to see my father in the car and the Mayor of the city.

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I mention this because I also recollect the power plant where generators were used to provide the motive power for these small street cars which went along the street on two trucks.

They were small steam engines, with very crude generators that were available at that time for five hundred volt
4476 service.

Later on, that location and plant became a part of the public utility and it was used as an electric service station and nothing could be more natural than that that would occur. People who operated the street railway business, in general, around the country, knew about the problems of generating steam and handling generators.

(Discussion off the record.)

A. (Continuing) Problems of electric generation also involved installation and handling of steam boilers and elec-

trical equipment, and there were undoubtedly many of the economies that I have previously talked about, in connection with other joint services present in the joint operation of an electric plant for the two services.

Q. As a result, was it generally true, all over the country, that the electric business grew out of the street railway business, or in affiliation with it? A. I think that many instances of that type can be cited, but it would not be correct to say that that was always the case, because, in Appleton, Wis-

—1,985— 4478

consin, where there was a very early railway system, we have the example of the first hydro-electric station.

Perhaps that was operated—I do know now—by the same interests, but it was in a separate building.

The transportation utility, as now constituted, is really a direct benefit to the electric business, in that it is a very large customer for electricity, and imposes an electrical load which tends to improve the load factor of the system.

In the year 1939, the transportation subsidiaries have purchased 92,472,660 kilowatt hours from Wisconsin Electric Power Company. 4479

(Discussion off the record.)

By Mr. Browning:

Q. During the period of decline of the interurban business, have there been instances where properties which would otherwise have been abandoned, have been taken over by the electric business? A. Yes. The electric company has salvaged operations of that type.

As an example, Mequon Stone Quarry, the operation of which has been discontinued by the Transport Company, was

4480 taken over by Wisconsin Electric Power Company, because it was seeking an advantageous and economical site on which to dump ashes. Mequon Stone Quarry is located between Milwaukee and Port Washington, where the Port Washing-

—1,986—

ton power plant is.

The Port Washington Power Plant has to dispose of ashes. We are about through with one site that we have. Mequon Stone Quarry is right on the transportation lines
4481 of The Transport Company, so it is convenient and economical to take the ashes on what are virtually our own tracks, and dump the ashes in this pit, and there is provision for ashes for nearly 25 years.

Q. You have already given us some statistics as to revenues of the Transport Company. Can you give us some other statistics to show its operations? A. Some of this is a slight duplication. The passenger car miles operated, for example, are 16,803,391. The trackless trolley car miles operated, 4,013,693. The bus miles operated, 9,921,897.

Express, freight, and switching miles, 351,037, giving the
4482 total vehicle miles operated, 31,090,018.

Those figures are of interest only as a guide to how much of the business is furnished by different classes of service.

Q. Those figures are for the year 1939? A. Yes.

Q. I was going to ask if you could give us some figures as to the equipment of the Company. A. The Transport Company owns 566 passenger cars, 235 buses, 124 trackless

—1,987—

trolley cars, 41 express and freight cars, 4 tank cars, and 6 electric locomotives.

It has nine stations for housing rolling stock and buses, one shop for construction and repair of equipment, and four express and freight terminals.

Urban transportation service is furnished, as I previously said, in the city of Milwaukee and suburbs, and I gave you the cities where interurban transportation was available.

There are certain cities which are served only by motor bus, which might be included, together with some villages, and they are cities of Fort Atkinson, Jefferson, Kenosha, Madison, Milwaukee and suburbs, Oconomowoc, Racine, 4484
Watertown, Waukesha, Sheboygan, and the villages of Cambridge, Chenequa, Hartford, Marshall, Pewaukee, Sullivan, Sun Prairie, Waterloo, Belgium, Cedar Grove, Oostburg.

In addition to the facilities owned, as previously described, there is a 600 volt direct-current distribution system supplying power to railway lines, consisting of approximately 461 cable miles of overhead feeder and 134 miles of cable in underground feeders.

Q. Can you give us some relative percentages of operating revenues to show the decline of the transportation business? A. In 1930, transportation revenues were 36.7 per 4485
cent. of total operating revenues, and in 1939, that percentage had declined to 30.1 per cent.

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(Discussion off the record.)

The Examiner: We will recess at this point until ten o'clock tomorrow morning.

(Whereupon, at 4:30 p.m., September 25, 1940, the hearing was recessed until 10:00 a.m. the following morning.)

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4486

BEFORE THE

Securities and Exchange Commission

Docket No. 59-10

IN THE MATTER

of

THE NORTH AMERICAN COMPANY, *et al.*

4487

Hearing Room 609,
Securities and Exchange Commission Building,
Washington, D. C.,
Thursday, September 26, 1940.

Met, pursuant to adjournment, at 10:00 o'clock a. m.

4488 Before: W. W. SWIFT, *Trial Examiner.*

Appearances:

S. PEARCE BROWNING, JR., and CHARLES S. HAMILTON, JR., of Sullivan & Cromwell, 48 Wall Street, New York City, Attorneys for the Respondents.

HERMAN O'DELL, MISS E. H. CALKINS, and C. M. MAXWELL, Attorneys on behalf of the Securities and Exchange Commission.

PROCEEDINGS

The Examiner: The hearing will come to order.

Whereupon, GOULD W. VAN DERZEE resumed the stand and testified further as follows:

Direct Examination by Mr. Browning (Continued):

Q. What is Badger Auto Service Company? A. That company is a wholly owned subsidiary of The Milwaukee 4490
Electric Railway & Transport Company. It operates automobile parking stations and gasoline filling stations. In carrying on these operations, it makes use of certain non-utility company properties.

Q. Properties of what company? A. Of The Transport Company and also Wisconsin Electric Power Company. It buys all its gasoline from The Milwaukee Electric Railway & Transport Company which has large purchasing power in that connection and happens to be the largest user of gasoline in the State of Wisconsin in connection with its motor bus operations. 4491

Badger Auto Service Company was originally acquired in connection with protection of the interurban lines of The Transport Company and it was later that the idea of using the corporation thus acquired for the purpose of putting to work certain non-operating property, was developed.

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In that way, we believe that better use has been made of properties which might otherwise be idle. The company is being held pending some advantageous disposition of it.

4492 Q. How many parking and filling stations does the company have? A. About half a dozen.

Q. And is this real estate held for sale? A. Much of the property is held for sale. Some of it is conceivably available for future use.

Q. That is, this property used by Badger Auto Service Company is either held for sale or held for future use of Wisconsin Electric Power Company or The Transport Company? A. Yes.

4493 Q. Now, will you tell us about Motor Transport Company? A. The Milwaukee Electric Railway & Transport Company owns 40 per cent. of the voting stock of a corporation known as Motor Transport Company. This is a trucking company which operates pick-up and delivery service in connection with freight and express business of The Milwaukee Electric Railway & Transport Company.

It also furnishes connecting truck service between The Milwaukee Electric Railway & Transport Company and other railroads and does cross-town hauling between stations of The Milwaukee Electric Railway & Transport Company, on
4494 lines where express cars are not permitted to operate.

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Motor Transport Company completes the delivery of goods shipped on the lines of The Milwaukee Electric Railway & Transport Company, but addressed to communities not reached by the railway and brings shipments from such points to the railway.

It also hauls coal to the Commerce Street and East Wells Street Power Plants under a contract which has been approved by the Public Service Commission of Wisconsin.

It is expected that under the contract which there is with the owners of the 60 per cent. of the voting stock, that such owners will ultimately acquire complete ownership of the company and it is thus provided in the contract.

Q. That is, if I understand you correctly, these non-affiliated interests have already acquired 60 per cent. of the stock of the company and are gradually acquiring the balance under the contract to which you refer? A. The contract provides a means by which the balance can be obtained out of the earnings of the corporation. 4496

Q. We have had testimony regarding the electric business of Wisconsin Gas & Electric Company. Does that company also engage in the gas business? A. Wisconsin Gas & Electric Company is engaged in the gas business and furnishes gas to sixty-two communities in southeastern Wisconsin including the cities of Racine, Kenosha, Waukesha, South Milwaukee, Cudahy, Watertown, Fort Atkinson, Oconomowoc, and Whitewater.

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In the City of Waukesha, it also engages in a steam heating business and in Kenosha it operates a small electric 4497 railway system.

In Wisconsin, trolley buses are classed as street railways. It is really a trolley bus system.

Q. When did the gas operations of the company start? A. As to the exact date, I can't say offhand, but they started prior to the development of the electric service business.

Before the advent of widespread electric service, gas was used for illumination, cooking and many other functions that are now performed by electricity. Gas and electric

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services are, therefore, associated services and it was quite logical that in the early development of the electric service business, that the gas companies in many parts of the country should expand into the field of electric service.

Generally, the combination of electric service and gas service results in numerous savings in operating expenses, such as combined meter reading, customer servicing, billing and bookkeeping.

Advantages also accrue through the joint use of certain
4499 properties such as office buildings, shops, right-of-way and automotive equipment, but I shall not attempt at this moment to indicate all of the reasons why such joint operations are effective and in the interests of the customer because that matter will be taken up a little later.

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Q. Could you give us some indication of the extent of the gas operations of Wisconsin Gas & Electric Company? A. The gas utility of Wisconsin Gas & Electric Company presently serves 51,474 customers, the majority of whom
4500 are also electric service customers of Wisconsin Gas & Electric Company, and Wisconsin Electric Power Company.

Wisconsin Gas & Electric Company now operates approximately 280 miles of transmission mains and 610 miles of distribution mains and manufactures all of the gas that it sells. During the year 1939, to give you an idea of the size of the business, the company sold 2,001,295,700 cubic feet of gas and these gas operations contributed to revenues to the extent of 27.4 per cent. of the total revenues of the company.

Q. Can you give us the operating revenues by businesses of Wisconsin Gas & Electric Company for 1930 and 1939?

A. A comparison of the total dollars of electric, gas, railway and heating business and the percent that each bears to the total in 1930 and 1939 is of interest because it shows general trends which are not apparent by comparing one year with the next year or the year before.

In 1930, the electric operations of Wisconsin Gas & Electric Company produced operating revenues of $3,783,459.00 and these revenues were 61.8 per cent. of the total operating revenues of the company.

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Compare those figures with 1939 for the electric service business in which the electric revenues increased to $4,541,247 and the percentage to 69.5 per cent. of the total operating revenues.

Gas service in 1930 produced operating revenues of $2,114,801.00 and were then 34.5 per cent. of total operating revenues whereas in 1939 gas revenues had decreased to $1,792,200.00 which was 27.4 per cent. of total operating revenues.

The railway operations which I have mentioned but not described produced operating revenues in 1930 of $189,046.00 equal to 3.1 per cent. of total operating revenues and in 1939 railway revenues were $168,000.00 and had decreased to 2.6 per cent. of total operating revenues. 4503

The heating business in 1930 produced $39,673.00 of operating revenue, equivalent to .6 per cent. of total operating revenues, and such revenues for 1939 had decreased to $32,629.00 or only .5 per cent. of total operating revenues.

Q. Is the gas business expanding in the way of extending mains? A. It would hardly be proper to say that the gas

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business is static. The volume of business is actually decreasing over the years as shown and generally the company is not extending gas mains. It is, of course, endeavoring to develop, as far as possible, the availability of existing gas mains for new customers that are on the mains or near-by

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that want service.

Electric service is, however, developing quite fast and aside from whatever may be the desire of the company in the
4505 future to more or less curtail the expensive extension of gas mains, I think there will be a natural curtailment in this territory as a result of more electric service being used by customers.

Q. You mentioned the transportation operations of the company. Could you describe those a little further? A. Such services consist only of trackless trolley car operations in the City of Kenosha and possibly a gas bus or two. During the year——

Q. (Interposing) During the year, what? A. During the
4506 year 1939, 867,180 vehicle miles were operated and 3,091,557 revenue passengers were carried. The revenue from these operations constituted, as previously indicated, 2.6 per cent. of the total operating revenues of the company in 1939.

Because of the operating economies and other advantages which it was thought could be realized from joint operation of electric and transportation systems in Kenosha and also because of the growing importance of transportation service, Wisconsin Gas & Electric Company acquired the street railway system in Kenosha in 1912.

The present operations are the outgrowth of that system

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and the company is naturally not seeking to extend it.

The company also operates a small heating business in the City of Waukesha where it renders electric service. It is presently serving 217 customers and operates only slightly more than a single mile of steam mains.

During the year 1939, 38,524,100 pounds of steam were sold. This business, like that in Milwaukee, originated as a means of making use of by-product steam and is being con- 4508
tinued in the interests of public convenience and necessity. The steam is generated at the Waukesha Power Plant which is held as a reserve electric generating station.

The steam plant also furnishes steam required for the gas works of Wisconsin Gas & Electric Company. Heating revenues amounted to .5 per cent. of the total operating revenues of the company last year.

There is, of course, the same general character of joint supervision that was described at some length in the case of the Milwaukee steam operations and there are somewhat the same general advantages, although live steam is generated 4509
in the boilers which are also required for operation of the gas works most of the time, except when the station may be put into operation in the winter for electric service reserve.

It would be thoroughly impracticable for anyone to go into steam heating business separately in Waukesha or in my opinion in any other place. The business is of minor importance. It is the best example of a completely incidental

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business. We aren't making any extensions; we didn't start the business in the first place. We bought it incident to buy-

ing the electric business and it has the same historical background that I have discussed in connection with the Milwaukee operations.

Q. The electric business of Wisconsin Michigan Power Company has already been described. Does this company engage in any other business? A. Wisconsin Michigan Power Company is engaged primarily in the generation, transmission, distribution and sale of electric energy and also furnishes gas service in the cities of Appleton, Neenah
4511 and Menasha.

It also furnishes local bus service in the City of Appleton and inter-city bus service from Appleton to Neenah, Menasha and Kaukauna.

Q. Will you describe for us the gas operations of Wisconsin Michigan Power Company? A. These gas operations are confined to a relatively small portion of the territory that is served by the company. There are at present 9,223 customers, the majority of whom are also served with electricity.

4512 The company now operates approximately six miles of transmission mains and 121 miles of distribution mains. This utility also manufacturers all of the gas it sells.

In the year 1939, it sold 207,828,500 cubic feet of gas,

the sale of which produced 8 per cent. of the company's total operating revenues.

The business is gradually diminishing as will be observed in the comparisons which I will give you shortly.

Q. Will you give us those figures for 1930 and 1939? A. The electric operating revenues of the company in 1930

were $2,963,663.00, equal to 84.2 per cent. of total operating revenues.

In 1939, the electric revenues had increased to $3,179,922 and the percentage had also increased to 88.6 per cent.

The gas revenues in 1930 were $390,683.00, equal to 11.1 per cent. of total operating revenues, and in 1939 they had decreased to $289,729.00 and the percentage increase had also decreased to 8.1 per cent.

Transportation revenues were $164,067.00 in 1930 and 4514
equal to 4.7 per cent. of total operating revenues and these also had decreased in 1939 to only $118,165.00 or 3.3 per cent. of total operating revenues.

Q. Was there any historical connection between the gas and electric businesses of the company? A. The gas and electric systems of Wisconsin Michigan Power Company grew up together in serving the Appleton metropolitan area. The advantages of such joint operation are generally about the same as those that have been pointed out in the case of Wisconsin Gas & Electric Company, and they also will be

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further elaborated upon.

Q. Will you describe for us the transportation activities of the company? A. The company operates local buses in the City of Appleton and renders inter-city bus service between Kaukauna, Appleton, Nennah and Menash. In the year 1939, it operated 637,133 bus miles and carried 1,322,495 revenue passengers. I have previously given you a statement concerning the small per cent. that these revenues are of total operating revenues of the company.

4516 Q. Was the business an outgrowth of a street railway business? A. Yes. The electric railway operations were very closely coordinated with the electric utility business. When rail service was discontinued several years ago, buses were substituted. We are not seeking to expand this business. It came with the company as an historical growth.

Q. Are these transportation, gas and heating activities important to the communities served? That is, are they a public convenience? A. They are decidedly so and we find
4517 that the communities want transportation service. There is usually no one else to pick them up at the moment. When a street railway line is discontinued, communities usually want to know what kind of service is going to be given as a substitute.

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While they are incidental to the other operations, in the main they are businesses which are highly regarded as a necessity by the communities served.

Q. Is that also true of the same activities of Wisconsin Gas & Electric Company? A. It is.

4518 Q. Does Wisconsin Michigan Power Company own stock in Fox River Navigation Company? A. I have been away from the office for several days and I can only say at this time that it did own such stock the last time I was conversant with the operation.

I say that because I believe that an arrangement has been made which I understood had the approval of the S. E. C., under which the ownership of a small percentage of the stock of Fox River Navigation Company was to be divested and the stock reacquired by the Fox River Navigation Company under a certain agreement, which gave to the owner of the

stock all the rights which would otherwise have accrued on liquidation and I can not say just what was done with that arrangement.

(Discussion off the record.)

By Mr. Browning:

Q. What is Milwaukee Light, Heat & Traction Company? A. That Company is a wholly owned subsidiary of The North American Company. It had substantial electric and railway properties which were sold to The Milwaukee Electric Railway & Light Company in the year 1929. 4520

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Q. In the what? A. In the year, 1919. Generally the properties of that company operated outside of the Milwaukee metropolitan area at that time. Some of the non-operating property owned at that time was retained and the company now collects rents, pays taxes and maintains the property it owns.

It has no bonds outstanding and all of its capital stock is owned by The North American Company. It is really an inactive company with a small income from land and interest on notes of the Hevi Duty Electric Company. 4521

Q. Will you describe for us the Hevi Duty Electric Company? A. In addition to the real estate owned by the Milwaukee Light, Heat & Traction Company, it owns 74 per cent. of the capital stock of Hevi Duty Electric Company which is engaged in the design, manufacture and sale of electric furnaces and electric heat treating equipment.

Hevi Duty Electric Company designs and supervises the construction of furnaces and equipment it sells, but the

actaal manufacturing operations are done in the Cold Spring shops of The Milwaukee Electric Railway & Transport Company. There is a lot of history back of the incident that Milwaukee Heat & Traction Company owns 74 per cent. of the common stock of Hevi Duty Electric Company, and I want to take quite a little time to go through the reasons

why there is such a relationship so that you will see, as I think the record will show, that the acquisition of that stock
4523 and the fostering of the cooperative activity of Hevi Duty Electric Company has been of very substantial value to the business of Wisconsin Electric Power Company and to any other electric utilities in the group of The North American Company and possibly outside.

We have been asked quite frequently why we have developed and fostered what is now the largest exclusively electric furnace manufacturing company in the United States and some background may properly be recorded.

It is an outgrowth of early necessity, designed to overcome customer skepticism of electric heating and the then
4524 existing lack of an agency which was able and willing to underwrite results guaranteed to the customer.

That brief synopsis is somewhat ahead of the story but I wanted to put it in at that point.

This company, Wisconsin Electric Power Company and its predecessor, the Milwaukee Railway & Light Company, have been pioneers in a great many things, not entirely in the development of unique and effective means of producing power, operating street cars, and in other fields, but we have been pioneers in the development of a number of very basic sales opportunities.

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We have to go back about twenty five years to review the

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first one. I want to give that because it is something of this kind. We might, for example, have owned to advantage, the Pittsburgh Furnace Company which was instrumental in developing the electric steel melting business, but it wasn't necessary for us to go that far and I want to describe what we did do with respect to the early developments of electric steel melting in Milwaukee.

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The Milwaukee territory, 25 years ago, was a metal trade manufacturing community, including many equipment factories, iron and steel fabricating plants, malleable and gray iron foundries, and twelve steel foundries.

At that time, there was no really suitable electric arc furnace for steel melting. We experimented in a small way through one of our customers with one type that was reasonably satisfactory, but we had to go into considerable research and much further in order to finally develop a really satisfactory electric steel furnace and it was in 1916 that acquaintance was made with a gentleman by the name of W. E. Moore of the W. E. Moore & Company of Pittsburgh.

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Mr. Moore we knew, from reputation and some acquaintance, had engineering ability, ideas, and experience for producing what he thought would be a suitable three-phase electric melting furnace.

It is quite desirable to have three-phase melting furnaces so as to balance the load over the three phases of the dis-

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tribution system rather than to operate a single phase furnace which has undesirable unbalancing characteristics on the system.

Arrangements were soon concluded with Mr. Moore for him to come to Milwaukee and establish the company then known as the Pittsburgh Furnace Company which would engage in the manufacture and sale of these three-phase electric arc furnaces and design in accordance with our mutual views on the subject.

Among the first furnaces built by the Pittsburgh Furnace Company were two large ten ton three-phase furnaces which were sold to the General Steel Company and placed in very
4529 satisfactory operation in Milwaukee.

All of the engineering and manufacturing facilities which were available as far as we were concerned, were placed at the disposal of the Pittsburgh Furnace Company and the General Steel Company furnaces demonstrated conclusively the effectiveness of the designs which had been incorporated in these initial furnaces.

We manufactured those furnaces for the Pittsburgh Furnace Company in the shops of The Milwaukee Electric Railway & Light Company. That is, the Pittsburgh Furnace Company was merely a selling device that utilized Mr.
4530 Moore's brains. He got the orders with our power salesmen from the customers and then The Milwaukee Electric Railway & Light Company built these furnaces because it had facilities which could be used for that purpose that were

available in its shops and which were generally required in connection with the construction and operation of street cars and other large operations of the company.

Pittsburgh Furnaces, as they were called, subsequently became the principal steel melting furnaces used in the Milwaukee area and practically all of the electric steel foundries

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adopted them in place of the earlier and less satisfactory single-phase furnaces.

Later, the manufacturing and promotional relations between The Milwaukee Electric Railway & Light Company and the Pittsburgh Furnace Company were discontinued and the Pittsburgh Furnace Company moved to Pittsburgh and later continued there.

At this point is the proper one to hark back to my statement that in the development of this very important basic sales operation, we might possibly have acquired, and to advantage, we might still have the Pittsburgh Furnace Company, but it so worked out that having utilized those facilities, Mr. Moore was able, because there was no large investment involved to take that furnace business and operate it satisfactorily for the benefit of the industry.

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If our company had been unwilling to finance the initial installation and take some measure of loss in case of failure, and had not offered inducements to an arc furnace manufacturer to move to Milwaukee, thousands of kilowatts of steel melting load would not be connected to the company's lines and millions of kilowatt hours of electric energy would have

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remained unsold.

With that background, we now go on to why we ultimately have an interest, through one of the subsidiaries, in the Hevi Duty Electric Company. We go to the subject of the resistance type electric furnace and the story of an electric furnace company being moved to Milwaukee to accomplish an important purpose.

4534 Developments in the production and use of machinery, automobiles, farm equipment, trucks, and so forth, during the latter days of the World War, and during the decade which followed, called for specific qualities of iron and steel.

The foundation for these qualities could be established in compounding the metal in the electric furnace, but metallurgists soon discovered that vastly improved results could be achieved by the heat-treating of metals in various stages in preparing them for their final use in the equipment for
4535 which they were manufactured.

This led to research in the field of heat-treating, annealing, carburizing, nitriding and similar technical operations. Developments in electric furnaces were started by various manufacturers and it was found that electric furnaces offered greater refinement in control of processes than any other method and could produce a more definitely predetermined quality of steel. It was impossible at that time to speculate with any high degree of accuracy on the amount of elec-

tricity that could be utilized for heat-treating in the metal
4536 trades, but it was obvious that with the proper development in equipment and processes, this field had tremendous possibilities, the views of the field indicating the possible use of heat-treating furnaces, varying in electrical capacity from 100 kilowatts to 1,000 kilowatts in size.

Further developments led to opportunities for furnace capacities of several thousand kilowatts and I think I mentioned to you a tremendous one, the largest in the country that Hevi Duty Electric Company built for the A. O. Smith Company.

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Altogether, it was evident that there was in any industrial center a huge potential market for kilowatt hours in the electric heat-treating field. Developments at first were slow. A number of manufacturers were designing equipment and operating electric furnaces, but it was impossible at that time to get local industries in our territory to make the relatively heavy investment necessary to obtain the equipment without some very definite participation and responsibility on the par of the local utility.

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In the Milwaukee district, we tried to analyze the possibilities in this field and the work of various manufacturers of furnace equipment in introducing electric heat-treating processes. —2,009—

We achieved some degree of satisfaction in this field, in 1921, 1922 and 1923, but some very important opportunities were lost because—now, I want to emphasize this—no manufacturer of our acquaintance existed who both could and would take a local industrial problem, prescribe the heat-treating processes, specify the equipment, and furnish, install and place in operation at a predetermined price and with guaranteed agreed upon results in the finished product.

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He would not take those responsibilities for an electric furnace. It was obvious in our territory that, unless our company could become the over-all underwriter in the foregoing picture in the adoption of electric heating and the installation of electric heat-treating equipment it would be seriously retarded.

It was found impractical to assume such underwriting where a number of manufacturers and contractors were involved in a given installation, one furnishing plans and specifications, another bricks and mortar and so on.

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We therefore began to look about for a source of equipment and adequate facilities for engineering and manufacturing these furnaces.

I had a personal experience in that connection that I remember. It was the case of trying to sell an electric furnace to the Rundle Manufacturing Company back in this period. One company had resistance elements for sale, another offered to put up the steel structure of the furnace and

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4541 supply the brick work. Still another had a type of transformer that would operate with the particular connection of windings in this furnace, and there were others involved.

The fact was that when we got all through, that customer turned down electric heat-treating operations that we should have had on the system because there was no one outfit that would guarantee the over-all performance of this collection of component parts provided by several different manufacturers. The utility obviously was not in a position to guarantee those results because it had nothing to do with the design of the furnace nor the furnishing of any part, so there

4542 we were helpless to develop as rapidly as we wanted this extremely important market for electric heating, just because of the absence of a company which would sell a complete electric furnace just as you now sell an automobile.

It was just as if we went to a prospective customer to sell him an automobile and you had only the wheels and someone else had the engine and still somebody else the seat covers. No customer wants to buy equipment on that basis. At that time we had some acquaintance and satisfactory experience with a manufacturer called the Electric Heating Apparatus Company of Newark, New Jersey.

We found that that company had achieved success in manufacturing of small laboratory furnaces and had certain valuable patents and engineering talent for developing even

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larger furnaces. They had made a few experimental larger furnaces of the type that I was just talking about which had stood up fairly well.

After some negotiations with that company, arrangements were made for it to move its factory and facilities to Milwaukee. An agreement was executed in October, 1924, and 4544 the organization, together with its facilities, was located by the end of that year in premises leased from our company.

An agreement with this manufacturer gave Milwaukee customers an option on 75 per cent. of the output of electric furnaces. The manufacturer was to furnish and install complete apparatus for the customers and in addition test and demonstrate the performance of equipment and stand back of such guarantees as would be mutually agreed upon.

The manufacturer's sales representatives were to help analyze the requirements of our operating territory and to cooperate with our own commercial engineering forces in 4545 developing this important business.

The agreement initially made was to have the facilities of this furnace company also available to a certain extent to the other subsidiaries of The North American Company and The North American Company actually signed the initial agreement with respect to this development.

The arrangement enabled us to carry out the procedure

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which I have just indicated, namely, that we could determine

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the requirements of a customer like the Rundle Manufacturing Company that I mentioned, specify the type of furnace that was needed and actually go to town with a development that would produce sales of electrical energy in large quantity by our company.

Shortly after this company moved to Milwaukee, the name was changed from the Electric Heating Apparatus Company to its present name—the Hevi Duty Electric Company. That is the company that I am describing which is
4547 a subsidiary of Milwaukee Light, Heat & Traction Company.

In November, 1925, the factory and offices were moved to a site adjacent to the Cold Spring shops of the company.

Q. Of what company? A. The Milwaukee Railway & Light Company is referred to. And contractual arrangements were made so that the extensive shop facilities at Cold Spring shops could be used in the manufacture of the furnaces.

That arrangement still continues. Facilities of the Cold Spring shops are quite varied and in view of the gradual
4548 diminution of the street car business, there is space available for the manufacture of electric furnaces.

In fact, it seems that that business is gradually getting larger as the street car business is gradually getting smaller. It is at the moment a sort of natural complement to the street railway shop operations, makes use of joint facilities.

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The company pays rent for the office space which it uses in a part of the adjacent shop buildings which it might be difficult otherwise to rent.

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In the course of time, the control of Hevi Duty Electric Company gradually passed to Milwaukee Light, Heat & Traction Company and that was because this particular type of business, so diversified as to use, requires a great many different kinds of furnaces, and there are continually popping up interesting and profitable fields in which these new furnaces can be developed.

Anyone who has been connected with the manufacturing business, knows very well that developments sometimes take a great deal of money before the apparatus is perfected. 4550
Insofar as we influenced the operations of Hevi Duty Electric Company—and I happen to be an officer of it, so that I can correlate the sales activities of Wisconsin Electric Power Company with that of a manufacturer that will produce efficiently what we want, we arrange such correlation and I think to the benefit of the industry.

We think that the program has worked out with considerable satisfaction. Hevi Duty Electric Company has achieved outstanding results in the production of high-class electric heating equipment for widely varying requirements.

Our troubles with special installations such as we had 4551
with the Rundle Manufacturing Company have practically

disappeared. The engineers and salesmen of Hevi Duty Electric Company which, of course, are on their payroll and entirely paid by them, are a very valuable adjunct to the sales forces of Wisconsin Electric Power Company.

No salesman in our sales department unless he was wholly detached for that purpose, could afford to spend the time required in the education necessary to know all about electric furnaces.

4552 These furnace men have an intimate family relationship with us and we can find out their secrets in advance, whereas the average manufacturer of electric furnaces tells you something when the product is about to come on the market, you have no time to prepare for it, and generally the outside manufacturing company heads don't give out such information.

We are right there at the inception of the ideas. We frequently tell the Hevi Duty Electric Company that we
4553 ought to have a furnace to do a certain thing.

Not long ago I said to Ed Smalley, president of the company, "Why don't you develop an electric garbage burner; such a device might have considerable sale." Well, it turned out that it would be rather easy to develop an electric garbage burner but at the present time it is not a very effective load for the system, but that probably is being worked on and I doubt if any other electrical manufacturer in the country has even thought of it.

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You have the types of garbage burners which operate with
4554 a little draft and a match providing you don't have too many watermelon rinds. You have the gas operating garbage burner and oil operating garbage burners, but think how nice and clean an electric garbage burner would be if you just turned a switch.

I recollect also going to Ed Smalley many years ago and saying we ought to develop the electric water heating business. "We will make the rates if you will make the furnace." That resulted in a long chain of study as to the most effective means of developing an electric water heater.

It was considerably ahead of the time that you could go out and buy an electric water heater in almost any up-to-date shop.

You didn't even get guarantees from a manufacturer where you gave him the specifications and told him to go ahead and build one, with perhaps one exception. We found out all we could learn from that one exception and then went ahead on our own hook with Hevi Duty engineers by our side and we lost no motion in working out the problem.

Finally, there was developed a serie of electric water heaters in fifty, eighty and a hundred and twenty gallon sizes and the company took the first hundred off the hands of Hevi Duty Electric Company, which was given an order to manufacture such water heaters and put them out on trial with various customers of the company, and carefully

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watched the operations for many months.

It was, of course, necessary to get the cooperation of the Public Service Commission and establish a rate which could be charged for this experimental operation, but evidently we hit on approximately the right idea and the right rate and following our determination that these electric water heaters were operating satisfactorily, that it was a needed service in any community, we gave the company larger orders and expanded the number of water heating customers very materially.

I will jump from that early example of cooperation on an undeveloped device for improving the sales of electric service to the statement that within the last year I, as an officer of Hevi Duty Electric Company and also as an officer of Wisconsin Electric Power Company, said to Ed

4558 Smalley, the president, "We should arrange to go out of the manufacture of electric water heaters because they are being generally manufactured and you can buy them in satisfactory form at satisfactory prices."

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Hevi-Duty Company discontinued promptly the manufacture of electric water heaters, sold its rights to manufacture the particular type to the Strauss Electric Company and has completely gone out of that particular business. It is now 4559 devoting energies that it has used in that field to other fields that are undeveloped which we can promote.

Each heating problem is definitely engineered. The industrial operator is given definite assurance as to what he can do with an electric furnace of a definite type and design, but I want to bring out this point that he does not have to buy a Hevi-Duty electric furnace. Experience shows that about 60 per cent. of the furnaces connected to our lines are of a make of the Hevi-Duty Electric Company. There are other competing makes in many fields, although the company has fundamental patents on a number of original designs.

4560 We talk about the steel melting load and the tremendous development of kilowatt hours through that outlet. We have been talking for the last few minutes about the resistance type electric furnace which is a different type from the arc type electric furnace. These resistance type furnaces have coils in them that may look quite like the coils in an electric range. They turn the current on and they glow. The temperature can be raised to any predetermined figure. Generally the same kind of material is used as is used in the element of an electric range. It is nichrome wire, having a

high resistance and capable of attaining a temperature of

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approximately 1,900 degrees maximum with safety.

Because of the nature of the resistance elements in the electric furnace they have what is called a high power factor. That is a very difficult term to describe and I shall not attempt it, except to say that if you take this same wire which you have in the furnace, which has very desirable operating characteristics, and if you were to roll it into a coil it would have less desirable characteristics because of so-called induc- 4562
tance losses.

The addition of some 65,000 kilowatts of resistance type furnaces in our operating territory has provided us with a wonderful base furnace load of very desirable operating characteristics through which millions of kilowatt hours are sold annually and we attribute our development in this type of load and in certain other loads to the facilities which Hevi-Duty Electric Company has afforded us.

In other words, we got the jump on industry and this type of development by analyzing the needs of customers and by going out and actually developing in the first instance 4563
suitable arc type furnaces with the Pittsburg Furnace Company, and then suitable type resistance furnaces with Hevi-Duty Electric Company. The era of research and development in that field is not over; probably it is just beginning. It is of such a varied nature, this future field for outlets of electric service in industry, that in the interest of our own company we ought not to really part with such a valuable

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adjunct to the sales forces as the adjacency of this furnace company and the ownership thereof if it is possible.

4564 Just as an interesting sidelight, the Hevi-Duty Electric Company has a large sale of small laboratory furnaces and small furnaces, say, from 250 watts capacity to 18 kilowatts of capacity. In all, approximately 50,000 of such furnaces have been manufactured by Hevi-Duty Electric Company. Some of their special furnaces can be found in substantial numbers in the Cleveland territory where considerable heat treating is done and the operations have been very beneficial to the other subsidiaries.

4565 Q. The other subsidiaries of what? A. Of the North American Company.

From a tiny furnace designed to heat treat a false tooth, to the largest electric furnace of 12,000 kilowatts capacity we have in between all sizes and shapes of furnaces and ranges of purposes. The large furnace that I mentioned that was built for the A. O. Smith Corporation about the year 1930 was designed and constructed completely by Hevi-Duty Electric Company and its over-all dimensions may be of interest to you to indicate the size of the facilities that have to be built for some of these operations.

4566 The over-all outside dimensions of that furnace of 12,000 kilowatts are 83 feet long, 42 feet high, and 42 feet wide. That furnace is capable of heating 90,000 pounds of steel an

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hour to a temperature of 1,750 degrees F.

If that furnace were to be operated continuously—I repeat a statement that I made a few days ago—it would utilize as many kilowatt hours as all the residence customers put together in the city of Milwaukee. So we are playing with big stakes and big possibilities in this furnace business, not with big profits to furnace companies but big profits to the

electric utility that has control of it and directs its destinies along the lines that it should go.

One of the most interesting and perhaps the most recent developments that have been carried on by Hevi-Duty Electric Company is in connection with Alloy 10. That is the name of the alloy. Alloy 10 is a patented mixture of iron, chromium and aluminum, which patents Hevi-Duty Electric Company were instrumental in developing to the point of issuance. While the exact metallurgical work was not done by that company, the idea of the necessity for a resistance wire 4568
which could be heated to higher than 1,900 degrees originated with our interests. This wire has been developed at substantial expense. It is now being used in medium sized electric furnaces and it will ultimately open up a tremendous field for the use of electric service in ceramics and other operations where temperatures from an electric furnace up to 2,400 degrees must be obtained.

It is really a marvelous development that has not been fully recognized as yet by the industry, but I predict that

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over a period of years that single development fostered by 4569
our sales department and the Hevi-Duty Electric Company will add many more millions of kilowatt hours to the lines of the company and to other companies, perhaps, and will take its place along with the long line of original developments which started with the electric arc furnace, followed by the resistance furnace for low temperatures, and as I say now we are going into the field of resistance type furnaces for high temperatures.

We know that the joint promotional and research work undertaken by The Milwaukee Electric Railway and Light

Company and continued now by Wisconsin Electric Power Company and the Hevi-Duty Electric Company, during the past 12 years at considerable expenditure of time and money, has been justified many times through the addition of revenue-producing furnace loads of desirable characteristics.

Q. You have described the activities of all of the companies in the Wisconsin Michigan group of subsidiaries of the North American Company, in addition to the electric business, is that correct? A. I have.

4571 Q. Do any of these other activities have any detrimental effect on the rates for service of the electric businesses? A. I can state most definitely that they do not have any detrimental effect on the electric service business of the com-

pany. On the contrary, I think that I have given plenty of examples to indicate that collectively they are of great advantage, and that there is no one single one in the group that is detrimental.

The Trial Examiner: Let's have a recess.

4572 (Whereupon, after a brief recess the hearing resumed.)

By Mr. Browning:

Q. You testified that Wisconsin Michigan Power Company owns approximately 27 per cent. of the voting stock of Fox River Navigation Company? A. Yes.

Q. What is Fox River Navigation Company? A. Fox River Navigation Company is a company which owns a couple of tugs and seven barges. It hauls coal from Green

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Bay to the company's plant and to the plant of a few other stockholders. It practically furnishes such services at cost.

I have previously testified that we expect to have an arrangement completed whereunder the stock of approximately 27 per cent. of the total owned by Wisconsin Michigan Power Company will be reacquired by Fox River Navigation Company, reserving under suitable agreement liquidating rights, and also providing that the present director, Mr. Schubert, will resign from the board.

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Q. Does the investment which Wisconsin Michigan Power Company has in this company approximate the proportion of the volume of freight which the navigation company handles for Wisconsin Michigan in relation to the total

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volume handled? A. Yes.

Q. Does the Navigation Company handle freight for anyone other than its stockholders? A. I believe not.

Fox River Navigation Company has an application pending for exemption and the Securities and Exchange Commission has been advised of the arrangement proposed between Wisconsin Michigan Power Company and the Fox River Navigation Company for disposal of its stock and directorship.

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Q. Does Wisconsin Electric Power Company perform any accounting services for its own steam business and for the Transport Company in addition to services for its electric business? A. Yes, the accounting department of Wisconsin Electric Power Company does perform accounting services for the Transport Company and the heating utility in its own business and I will describe the nature of these

several joint services that are so performed by each important division of the accounting department of Wisconsin Electric Power Company.

First, we will take the general accounting division. This division maintains the general accounting records for both the Transport Company and the heating utility of the company. All accounting operations necessary to keep the accounts of the Transport Company and the heating utility in accordance with the uniform Classification of Accounts
4577 are performed by this division. That is in addition to the

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maintenance of the accounting records, regular and special reports are prepared from time to time, also special analyses are made and data accumulated.

The record maintained for the Transport Company are entirely separate from the records of Wisconsin Electric Power Company. The records for the heating utility, while complete in themselves, are a subdivision of the records of the electric company.

The second subdivision of the accounting department
4578 which performs joint accounting services is the accounts payable division. Invoices for equipment, material, services, etc., covering the operation of both the Transport Company and the heating utility are directed to this division for payment. The essential functions performed by this division are to audit these accounts and be sure that payment to be made is proper, prepare checks for payment, maintain necessary records and files and carefully watch the discount dates in making these payments.

Invoices covering the payment of purchases for the heating utility are made on Wisconsin Electric Power Company

checks and payment for the Transport Company purchases are made on checks of the Transport Company.

When I use the term "Transport Company" I mean The Milwaukee Electric Railway and Transport Company, and it has no reference to the Motor Transport Company.

Miss Calkins: When you are speaking of the heating utility company you are referring merely to a division of Wisconsin Electric Power Company and

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not a separate corporate entity?

The Witness: Yes, I have not intended to refer to it as a heating company but as a heating utility which is a subdivision of the company's activities.

Miss Calkins: I don't mean to get off the line here and cross-examine but I just want to get your testimony clear. This accounting department then is rendering services only for one other company.

The Witness: That is correct.

Miss Calkins: That is what I wanted to know.

The Witness: It is rendering services for one other company and for the incidental service of heating. 4581

The third division of the accounting department to be discussed is the property and plant accounting division. Property and plant accounting records for both the Transport Company and the heating utility are maintained by this division. I described some of the activities of this division in previous testimony but generally the purpose of these records is to establish and maintain a complete and accurate record of all items of property and embrace such informa-

tion as description of property, date acquired, cost or amount, date and amount of property additions, and data relative to the retirement of all property from the company's service.

Records maintained for the Transport Company are separate from those of the Electric Company.

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The fourth division of the accounting department which performs a usual joint service is known as the 4583 mechanical accounting division This division performs services for both the Transport Company and the heating utility, in addition, of course, to the electric utility operations of the company.

The punching of cards and preparation of reports covering accidents, receipts and disbursements of materials and supplies, inventory of stock material, property records, and apportionment and clearing of accounts is done by that division.

Services relative to the preparation of rolling stock in the department and transportation department pay 4584 rolls are performed for the Transport Company. Performance of work for the Transport Company and heating utility increases the volume of available work and permits a schedule of work in such a manner as to maintain a high machine load factor, in fact a higher one than would be possible if each performed its own work separately. The higher the machine load factor the lower the machine rental cost per unit of output. We have to rent these machines. They are not owned. It is like the shoe machine

manufacturing business which rents many of the machines used.

The higher volume of work also reduces unit labor costs and one person can operate a number of sorting and tabulating machines at one time. Full-time attendance would be required even though there were fewer machines to operate.

The fifth division of the accounting department which performs joint accounting services is known as

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the centralized pay roll division. The centralized pay roll division performs the following services for both the Transport Company and the heating utility. It maintains social security records and prepares the necessary reports therefor. It maintains state and federal unemployment compensation records and prepares reports and data as required. It maintains a complete file of master employee record cards and performs other pay roll services such as recording data relative to employees entering and leaving the service, changes in amount of wages, date thereof, etc. 4587

This division also performs timekeeping and pay roll work for the Transport Company. It is expected that these services will also be performed for the heating utility starting October 1 of this year.

In other words, we have not perfected the centralized pay roll work to the extent that it now covers all of the departments but we experimented several years ago with two or three divisions and we are gradually taking over all the pay roll work from

4588 *Colloquy*

different departments so that they have no pay roll clerks preparing the final pay roll. It is being done in a centralized pay roll department.

A sixth customers' accounting division performs work for the heating utility consisting of the preparation of steam service bills and work related to the billing operations, delivering bills to customers, performing credit and collection functions relative to

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4589 the handling of steam service accounts, addressographing pay roll checks and similar operations.

Services performed for the Transport Company embrace such items as these, addressographing transportation time cards and pay roll checks, billing of inter-company and associated company accounts, rental for properties owned by the Transport Company and rented to others, collection of rent and maintenance of records and reports covering rented properties, billing tenants of the Transport Company for use of electric service, accrued credits to be charged

4590 such as for charter service, and the accumulation of data and preparation of invoices relative to services performed for outside customers.

A seventh division of the accounting department which performs work jointly for the operation of the heating division of the Transport Company is called the report and development division. In view of the fact that this division makes studies and prepares reports and performs development work for all accounting department operations, the work is performed for the Transport Company and the heating utility.

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Recently considerable work has been performed for the heating utility in connection with the proposed transfer of the power plant department pay roll work to the centralized pay roll division. I mentioned that other divisions will shortly take up that work and this report and development division is a little division within the accounting department which needs to be

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very close to the operations and is sort of a miniature research bureau, working on problems entirely within the accounting department. 4592

A large amount of work has been performed for the Transport Company in the development and improvement of pay roll and time-keeping work performed by the pay roll division. Work performed for the mechanical accounting division covers both the heating utility and the Transport Company.

Last, we have an eighth division of the accounting department which performs these joint services called the cashier's division. Relative to the work performed for the heating utility this division receives payment for steam service and deposits the money collected. 4593 Work performed for the Transport Company includes separation of tickets and cash, that is the contents of the fare boxes, counting of the cash taken from fare boxes, and sale of tickets and passes, counting of redeemed tickets and transfers, supplying stations with tickets and passes, depositing cash receipts, and auditing cash, ticket and pass balances of each station once a month.

4594 *Gould W. Van Derzee—By Respondents—Direct*

In my opinion, the result of all this centralized accounting is a very substantial economy.

Q. Does the operating research bureau perform any functions for other companies? A. It does.

Q. Will you describe those? A. I think it is advisable

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that I describe this organization. This organization known as the research bureau is made up to a great extent by
4595 trained engineers and accountants, and functions as a joint facility available for special studies and investigations to the Transport Company, the heating utility and other associated and affiliated companies.

Q. Those include Wisconsin Gas and Electric Company and Wisconsin Michigan Power Company? A. They do. When so employed, the services of the research bureau are charged against other organizations and I refer you to Mr. Schmidtman's testimony yesterday as to the basis of such charges.

Such arrangement insures competent unbiased services
4596 for the user and saves that organization from maintaining such trained man power on its own pay roll. This plan also makes it possible to maintain a highly trained specialized group of analysts with an efficient load factor for its man power, whereas if each maintained its own special investigators such would not be the case and the result would be inferior work of higher cost.

The following instances which I will give are where the operating research bureau has been of service to the Transport Company and to the heating utility particularly, and also to associated companies:

First, internal audits are made for the Transport Company and for heating utility as well as for other affiliates

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and covers such items as cash audits, voucher audits, pay roll audits, and stock auditing, general supervision of accounting functions, particularly with respect to interpretation of accounts and methods, is furnished by the bureau.

Second, the bureau furnishes a considerable amount of services in connection with income tax studies and reviews the returns of the associated companies for both state and 4598
federal governments. In fact, very definite instructions are followed with respect to the functions of this one group that they shall review the income tax returns and give to each company the benefit of their long experience and knowledge.

All tax audits made by the state or federal tax department, as previously stated, are checked and negotiated, and tax litigation is followed. I remember that our tax experts in the research bureau a year or two ago, when we were endeavoring to clean up all of the unsettled tax cases with the state, did a very substantial amount of work for Wisconsin Gas and Electric Company and Wisconsin Michigan Power 4599
Company, and for what was the old Milwaukee Electric Railroad and Light Company before the separation.

The work of following property tax assessments falls to the bureau. Capital stock tax returns are examined and details of filing are followed.

Third, special depreciation studies and analyses for affili-

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ated companies and for the heating utility are carried on by the bureau. I have personally been rather close to the sub-

4600 ject of depreciation and particularly since the Uniform Classification of Accounts was issued by the Public Service Commission effective January 1, 1938. That provided that within a year each company should make a detailed study of depreciation, of depreciable property, by classes of service and present it to the Commission.

The operating research bureau was charged with the job of making the reports on depreciation of that character for all of the companies and it was a stupendous piece of work.
4601 No man or group of men not thoroughly familiar with the property in the field and records of the use of property could possibly have prepared it.

That same Classification of Accounts required that within thirty days each company should state what objections it had, if any, to straight line depreciation, and if it had any objections it should state the method of depreciation accounting that it thought should be employed for the respective company and why.

Our companies had not operated on the straight line basis of setting up depreciation. Historically, they had gen-
4602 erally been on a sinking fund basis and that was particularly true of The Milwaukee Electric, Railway and Light Company. Later, Wisconsin Gas and Electric Company and Wisconsin Michigan Power Company adopted sinking fund depreciation with 3½ per cent. interest on reserve balances cred-

ited to the depreciation reserve annually.

It was up to the research bureau engineers to sit in at hearings before the Public Service Commission on this extremely important subject and to follow it through to a conclusion for the several companies.

The first result of that work by the research bureau has been the recent order that I mentioned, that the executive committee of the Wisconsin Electric Power Company reviewed relating to depreciation on the sinking fund basis for Wisconsin Electric Power, and similar orders are expected for the other properties.

That is one of the very highly specialized services that this group of men give to the properties as a whole and we believe that in the first place it would be very difficult to find men who, by long training and experience, would be able to 4604
perform such work if each company had to have a special group of that kind, and it seems obvious that one group can perform more work for the several companies cheaper and better in this instance than if each company were to try to set up its own group of tax experts and workers on depreciation.

Fourth, in the past considerable assistance has been furnished to the associated companies in connection with the preparation of reports and schedules necessary for the refinancing plans. There is a lot of ground work that has to be done locally and the boys in the research department are 4605

the ones that have done that for the several companies.

Fifth, particularly for the Transport Company the bureau prepares exhibits and presents testimony for service extension hearings and fare cases before regulatory bodies. We have one man in the bureau who supervises that type of work and, of course, does other work, too, when there aren't any fare cases, who has become an expert over the years in putting in a type of testimony that is required in the many ap-

4606 plications of citizens for extension of bus services and changes in transportation facilities.

There is great advantage in having such an individual in the bureau and he can work on other things when there are no transportation cases.

Sixth, special studies bearing on the economics of modernization of facilities are prepared for the Transport Company. That is the type of problem that arises when a Mayor or an Alderman in some district goes to the news-
4607 papers and says, "I think we should have trackless trolleys on Center Street, instead of the existing street cars."

The bureau, in connection with a problem of that kind which ultimately comes before the council and for which the company has to put in an appearance and report, makes a very extended study of the economics of the situation. They find out from the property and plant record division, which is just 100 feet down the hall from the office of the operating

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research bureau, what that piece of track cost. They go back to the original work orders and from our property record that
4608 is reasonably easy to do. Then from their knowledge of depreciation they figure out what the unamortized investment is, how much of the property investment has not been offset by depreciation in the reserve of the Transport Company.

We need to know that because we want to know what useful life is left and from an accounting standpoint what we are going to do with it when we find out what it is.

Then they make an estimate of the cost of new facilities that will be required to substitute trolley buses for the street cars. From long experience their knowledge of trainmen's

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wages and schedules enables them to estimate the expenses of the bus operations and their maintenance. Finally they produce a report which is the basis for the Transport Company president to determine whether or not the company should, for economic or other reasons, oppose the change of the rail service to trolley bus service on said Center Street.

The preparation of reports of that kind means a very long intimate experience with the properties is necessary. These men who work on that subject have that experience and it would be an uneconomical thing to push them over 4610
on the Transport Company payroll just because they have it and make them work continuously with that company because they are also trained in other things, to supply the

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needs and services of other companies and effectively fill in the balance of their time on those things which they would have no means or authority to do if they were placed on the payroll of the Transport Company. It has no operating research bureau and performs no such functions for other companies.

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Mr. Browning: Mr. Examiner, I think we might suspend at this time.

The Examiner: All right. We will recess the hearing until two o'clock this afternoon.

(Whereupon, at 12:30 o'clock the hearing was recessed, to reconvene at 2:00 o'clock p. m.)

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4612 *Gould W. Van Derzee—By Respondents—Direct*

AFTERNOON SESSION

(Whereupon, at 2:00 o'clock p. m., the hearing reconvened.)

Whereupon, GOULD W. VAN DERZEE the witness on the stand at the time of recess, resumed the stand and testified further as follows:

Direct Examination by Mr. Browning (Continued):

4613 Q. You were describing certain instances in which the operating research bureau has been of service to various associated companies and have given six such illustrations. Will you give other illustrations? A. Seventh, the bureau prepares reports for the use of directors of the company and it also prepares the fundamental information that is presented to the president with respect to each company for a letter which he writes to the Board of Directors which is delivered to each member by the 15th of the month.

4614 There is really quite a lot of fire department research necessary in such a proceeding. For example, our preliminary statement is done in condensed form about the 10th of the month covering the operations, showing the revenues by important groups and the expenses by important groups, but not in the detail that is in the more detailed report which comes out about the 15th to the 20th, and it is necessary to get from the books the reasons for principal departures

of revenue and expenses from the corresponding month of last year and also from the budget, and to write statements with respect to those departures so that the president can

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incorporate them, after he has studied them, into this letter to directors.

The research bureau does the ground work on that for all of the companies. Where it hasn't right at hand reasons for things, it gets in touch with the treasurers, secretaries, or operating officials at the companies in Appleton and in Racine.

Eighth; land and property appraisals. Establishment of rentals for leased property and power rate studies are made for The Transport Company by the Bureau. There was a very detailed study requiring many appearances before the Commission on the question of what is the proper rate for the electric company to charge The Transport Company for power service. The power service is 600-volt direct current.

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The facilities to produce that 600-volt direct current are all owned by the electric company so it was necessary to make a detailed study of the character of the railway load and to determine the various elements of cost all the way down from the generator to the rotary converter that changes alternating current at the sub-station to the 600-volt service required at the trolley.

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Mr. Schmidtman did a great deal of work on that particular subject. It is typical of one of the largest problems that is done for The Transport Company by the research

bureau.

Ninth; exhibits used for cases before regulatory bodies are prepared. One of the examples of these cases is information necessary in the application to erect the East Wells Street and the Commerce Street stations.

While those stations are owned by the electric company, they do have an important function in providing heating service, which is one of the incidental businesses we have been discussing.

Also the research bureau has prepared many statistics and data necessary in the application of Wisconsin Gas & Electric Company and Wisconsin Michigan Power Company.

Tenth; construction, retirement and operating budgets for the heating utility and The Transport Company are pre-
4619 pared in the bureau.

Mr. John Dockendorf, whom I have described as a member of the research bureau, in fact, assistant research engineer, was appointed as head of the budget division of the inter-company accounting committee, made up of members of the subsidiaries of North American Company.

Mr. Dockendorf was chosen because of his rather extended knowledge of the preparation of budgets.

The preparation of agreements and contracts for filing with regulatory bodies fall with the bureau and involves The Transport Company as well as other facilities. There is a so-
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called affiliate statute in Wisconsin which requires the filing of an approval of arrangements made between affiliates. The Bureau prepares those for all the companies in our group in a uniform manner after consulting with the various departments as to detailed information necessitating these agreements and it undertakes to answer the Commission's inquiries about them.

Twelve; monthly reports of a financial and statistical nature for the American Transit Association and other ques-

tionnaires and annual statements for directories are prepared by The Transport Company for the bureau.

Thirteenth; reports to the Federal Power Commission and to other Federal agencies are regularly prepared in the bureau and cover operations of other affiliated companies.

Most questionnaires, except those involving scientific information about power plants and the like, go to the research bureau from the different companies so as to have a uniform method of preparation and answer.

They know what the companies desire to do and usually 4622
when one of the companies gets one of that kind, he merely sends it to the research bureau and if there are any questions, they are answered and it is determined whether the answer is to be sent out or the questionnaire put in the ice box.

We virtually have to have a questionnaire department and it is concentrated in the bureau.

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Fourteenth; gain-sharing plans, more commonly known as bonus plans, are prepared and maintained by the bureau for The Transport Company, heating utility and Wisconsin 4623
Gas & Electric Company.

Certain bonus records are maintained for employees of the heating utility and The Transport Company by the operating research bureau.

Fifteenth; the bureau offers statistical and other experience to The Transport Company and to the heating utility in connection with labor and wage negotiations.

We have one man in the bureau, Mr. Larkin, who is quite an expert on matters of that kind and he renders consider-

4624 able service to The Transport Company and also to Wisconsin Gas & Electric Company and Wisconsin Michigan Power.

Just recently there was an arbitration over some matter in Wisconsin Gas & Electric Company at Racine and Mr. Larkin was selected by Wisconsin Gas & Electric Company because of his intimate knowledge as to the company's arbitrator.

Sixteenth; the development and establishment of con-
4625 tinuous property records, inventory of physical property, reclassification of accounts and special property map records as well as development work on acquisitions of property, have been prepared for Wisconsin Gas & Electric Company and for Wisconsin Michigan Power Company by the bureau.

The last item, development work on acquisitions of property is one that makes a rather big file in the research

bureau. One of the men you have met—Mr. Schmidtman—has done a very extensive amount of work on that. I think his latest piece of work was in connection with the acquisi-
4626 tion of the Narrows Dam property.

He made an extended study in the field. Some fifteen years ago—or, perhaps, I should say between ten and fifteen years ago—Mr. Schmidtman made a study of a large hydro-electric development in upper Michigan, called Sturgeon River Development.

Q. For Wisconsin Michigan Power Company? A. For Wisconsin Michigan Power Company or its predecessors.

We were thinking at that time that it would be an important acquisition, to acquire this most northerly water

power site, nearly up to the northern boundaries of upper Michigan at Lake Superior, so Mr. Schmidtman spent many weeks there. That was one of the properties that I later came to The North American office on, with respect to the final acquisition, and Mr. Browning happens to be the man that wrote up the contract for me—the contract between the owners of the property and our interests.

There are undoubtedly many minor operations that the research bureau performs, that don't come readily to my mind. They cover all phases of operation. 4628

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The operating research bureau is really an arm of the management of the several companies. Instead of having assistants attached to each office of an officer within any one company, these men are all in one place, and their service does not only apply to all the officers of the Wisconsin Electric Power Company, but to the other companies as well, as I have described in many instances.

I have been with the Company so long that I can remember just how the operating research bureau started. It just started out of necessity of having detailed information 4629 worked up and kept and at the fingers' ends of experts. One of our present vice presidents—Mr. Seybold—started in the research bureau as far back as 1919.

It was formulated shortly before that time and has been expanding in size and usefulness, and economical operation for the several companies, ever since.

Except for Wisconsin Electric Power Company, I doubt if any—and I am certain that no other company could afford to have that group of trained experts, and by "other com-

pany" I mean other company in our group of four major companies in the Wisconsin Michigan group of properties, namely Wisconsin Electric Power Company, Wisconsin Gas & Electric Company, Wisconsin Michigan Power Company, and The Milwaukee Electric Railway & Transport Company.

For Wisconsin Electric Power Company it has been a great advantage to have this diversity of use, and similarly

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4631 for the other companies, it has been a great saving to, in effect, be able to buy the character of service that the bureau gives, for the reasonable price at which it is furnished.

You have to compare it with what these other companies would be up against. They would either have to have their own facilities or they would have to buy it from some engineering concern on a per diem basis, when they needed it, and that is an expensive type of information, and you really can't get it from outsiders.

Another reason why it would be practically impossible to consider setting up a group that functions like the operating

4632 research bureau does is that the men who make up the operating research bureau can't be duplicated overnight.

They can't be duplicated in a year, and some of them in a decade. It takes long, intimate experience with the property to grow men like those we have in the bureau, of which Mr. Schmidtman is an example.

Q. Does The Transport Companys' rolling stock department render any services to Wisconsin Electric Power Company? A. It does.

This is an example of services being rendered by the Transport Company to the Electric Company:

During the past twelve-month period ending August 31, 1940, a total of 657 inter-company orders have been received by the rolling stock department of The Transport Company

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from the Electric Company electric and heating utilities. These orders were for a great variety of manufacturing operations and services, which the rolling stock department, with its tool equipment and personnel can perform efficiently and at low cost for the Electric Company.

Such an arrangement eliminates the necessity for the 4634
Electric Company to duplicate tools, facilities, and the personnel, for such manufacturing operations and services, and in total the work is performed at a lower cost to the Electric Company than the cost of contracting for these manufactured items and services with outside companies.

I say that because the boys are very careful to go out and get prices where there is any question in their minds. When they have budgets, within the limits of which they have to keep, you can be sure they are not unnecessarily giving away any money, and in border line cases, I have heard some very definite discussions on, "Why don't you do this 4635
to make it cheaper; you can sell it to us at a lower cost," and so forth.

The major service for the Electric Company is the purchasing of automobiles and trucks used by the various departments, the designing and construction of special bodies for such trucks as required, and the maintenance, servicing and housing of these trucks.

At the present time there are 168 such automobiles and

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trucks, which are owned by the Electric Company, and maintained, stored, and serviced, by the rolling stock department.

The rolling stock department personnel is trained in the care of the large fleet of The Transport Company's—the buses and trucks—and is well qualified to maintain Electric Company-owned automotive vehicles.

Space available in The Transport Company garage and other buildings is used for housing these vehicles, all of
4637 which eliminates the necessity for the Electric Company to have duplicate facilities and personnel for taking care of these cars.

The rolling stock department, you understand, is housed at the Cold Spring shops.

We talked about the shops this morning. The department that lives there is this department known as the rolling stock department.

The rolling stock department has other buildings and car stations for the maintenance of cars as they come in every day, but its main shop facilities and operations are
4638 at the Cold Spring shops.

The rolling stock department engineers specialize in the study of methods for promoting gasoline and lubricating oil economy in automotive vehicle operations.

The experience and knowledge of these engineers is used in establishing standard practices and procedures for care and operation of the automotive vehicles owned by the Elec-

tric Company.

Gasoline and lubricating oils, used in both The Transport Company and the Electric Company vehicles are in accord-

ance with specifications and test data prepared and accumulated by the rolling stock department engineers.

The procurement of State Motor Vehicle Department and City licenses for automotive vehicles, owned by the Electric Company, is also handled by the staff of the rolling stock department.

The Cold Spring shops of the rolling stock department are so equipped and manned as to be in a position to manufacture and perform services for the Electric Company efficiently and at low cost. 4640

The shop divisions, with a brief review of more important work performed in each division, has value at this point, and I will enumerate these divisions and principal functions very briefly.

The paint division handles vehicle washing and cleaning, vehicle painting, sign painting, seat upholstery, cloth cutting and sewing, leather work.

The carpenter division of the rolling stock department handles overhaul and repair of vehicle bodies, the construction and reconstruction of vehicle bodies, mill work, cabinet work, pattern work, and sheet metal work, as required, and 4641

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glazing.

The bus repair division handles general inspection of automotive vehicles, overhaul and repair of automotive vehicles, cleaning of chassis and mechanical parts, construction of special truck bodies.

The forge division has a blacksmith shop and does forge work and blacksmithing. As required, it does heat treating, rail bending, and track, special work assembly, tool dressing and oil and waste reclamation.

4642 The motor and truck division of the rolling stock department handles the overhauling of railway car trucks, air piping and electric wiring. Pipe shop work is done as required. Air tanks are tested and repairs made to wrecked steel car bodies.

The machine division of the rolling stock department does car wheel and axle work, heavy machine operations, light machine and bench work as required, automotive engine and other automotive parts overhauling and repairing; plating,
4643 lacquering and buffing work; air compressor and air equipment repairs, and has a tool room.

The electrical division of the rolling stock department does repairs to electric motors and overhauling of same, armature and field coil winding and rewinding, winding of armature coils and control equipment coils, automotive electrical equipment repairs, control equipment repairs, repairs to track switches, telephone boxes, signal boxes, et cetera; armature commutator turning, slotting, et cetera.

—2,049—

There is a foundry in the rolling stock department, and it
4644 handles brass, aluminum and non-ferrous alloys, as required; the tinning and babbitting of bearings, and sand blasting.

The furnace department handles the fabrication of steel, assembly work, oxy-acetylene and spot welding that is required.

The plant maintenance and boiler room of the rolling stock department handles maintenance and repair of heating, electric wiring and plumbing equipment, and it includes the Cold Spring boiler plant operation and takes care of inspection of elevators around the property.

The tire division handles tires and tubes; disassembled repair, and assembling, on wheels.

The foregoing outlines the general character of the work performed at the Cold Spring shops.

The shops are well-equipped with tools and they are well-staffed to overhaul, construct, and rebuild railway cars, trackless trolley cars, motor buses, miscellaneous gasoline equipment, and other equipment mounted on wheels.

Further, it performs much of the manufacturing of repair parts for this equipment, with tools, facilities, and organization for this work. 4646

It is capable, without additional equipment or supervisory personnel, of performing many manufacturing operations and

—2,050—

services for the Electric Company.

Rolling stock department shop costs, which include overhead and billing charges, are checked against outside companies' prices and deliveries for the various items, and the shops are favored with this work only when it is economical for the Electric Company to do so.

I think you will see, from the number of inter-department orders of various kinds, that have gone through in a year, that there are many instances in which it is favorable for the Electric Company to makes uses of the manufacturing facilities of the rolling stock department of The Transport Company. 4647

When the separation of the properties was made, I wanted to see personally just what was involved in this inter-company work, and so I directed that all of the inter-company orders from one company to the other must pass over

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my desk for personal signature and I do see and sign all of those orders.

My purpose was to get an executive quantitative look at the nature of these inter-company transactions.

Sometimes when I don't understand the nature of the work I make inquiry as to what it is. That is not so true with respect to orders to manufacture a few bolts, or some such group of items, but frequently The Transport Company will send in an order reading, "Charge us for the rental of
4649 space occupied in some building for the year nineteen so-

—2,051—

and-so on the following basis and the following amounts."

I usually send those up to the research bureau to find out if the rental has been made in accordance with the agreements approved by the Public Service Commission, and, if they have been so made, put my initials on and send the order on.

I just happened to remember one item that came through not long before I left. It was, "Make 5,000 pole tags for Wisconsin Michigan Power Company."

4650 I just mention that to indicate that the orders are not all for The Transport Company that go through.

Q. Or for Wisconsin Electric Power Company? A. That is right.

(Discussion off the record.)

Q. Do the Cold Spring shops of The Transport Company perform any services for Wisconsin Gas & Electric Company and Wisconsin Michigan Power Company? A. They do, but they are not of quite the magnitude of the Electric Company.

Q. Can you give us some idea of the nature of the orders received by The Transport Company from the Electric Company? A. The nature of the orders received and the amount of manufacturing work for the Electric Company at the Cold Spring shops naturally varies a great deal from month to month.

—2,052—

A review of such orders received from the electric and heating utilities for the past twelve months reveals a large number of different kinds of orders from the various depart- 4652
ments.

Now, as to items manufactured or repaired for the electric distribution department of Wisconsin Electric Power Company, there are 54 different types of operations, among which I might mention making cable bushings, rewinding coils, machine manhole lids, making switch hooks, repairs to junction boxes, welding transformer cases.

An analysis of the orders received by The Transport Company from the sales department of Wisconsin Electric Power Company shows five different kinds of operations, two examples of which would be weld coils, clean and dip 4653
electric refrigerator parts.

The same analysis shows that the power plant department sent in nineteen different kinds of orders to The Transport Company, rolling stock department.

These are some examples:

Make and repair patterns.

Make bronze, copper, and brass castings.

Make thermo-couple connectors.

Furnish glass.

4654 Maintain locomotives and other rolling stock used in the power plant yards.

—2,053—

The purchasing department apparently has sent in six different kinds of orders to the rolling stock department, such as:

Repair trucks.

Make roller towels.

Repair chairs and furniture.

4655 Even the advertising department of the Electric Company has two typical types of orders to the rolling stock department:

Make truck top signs.

We utilize the tops of all of our trouble cars and appliance repair cars to have electric company signs, advertising seasonal operations of the sales department, refrigerators, lamps, electric cooking.

There are little frames resting on the tops of the cars, into which cards can be inserted showing such advertisements.

4656 There is one inter-company order from the real estate department of the Electric Company, requesting the Cold Spring shops rolling stock department to mount maps.

The accounting department sent in four different types of orders, such as:

Overhaul and repair coin separator.

Repair cash boxes.

Make cloth bags.

Make bill distributor bags.

—2,054—

I think it is evident that the accumulated effect of all these inter-company transactions is very substantial and that there are substantial economies as a result of the availability of these facilities operated by people in the family.

Mr. Browning: We are prepared, Mr. Examiner, to give considerably more detail on this type of thing. For example, we have a list of 91 different operations, which could be enumerated, within the classification which the witness has just described.

We had not felt that greater detail was necessary, but 4658
if the Commission counsel want us to give more detail, we should be very glad to do so.

Miss Calkins: I don't believe that it is necessary.

By Mr. Browning:

Q. Does the garage of the Electric Company render any services with regard to vehicles owned by The Transport Company? A. It does. The electric distribution department garage of the Electric Company, which is located right near the Cold Spring shops, in addition to maintenance of all 4659
electric trucks used by that Company, provides convenient storage space for servicing of some of The Transport Company's trucks.

The vehicles which are stored in the Electric Company garage are the line trucks which put up the overhead trolley

for the railway system, and the double trolley for the trackless trolley cars, and at that point are also stored a number of parts required for overhead construction, because it is more convenient, on account of the availability of space, in

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keeping that overhead construction material used in Transport Company operations at that point where the trucks are stored.

This particular, relatively small amount of stock, for the purpose indicated, is really owned by the Electric Company. It was not transferred at the time of the separation. Ultimately that stock may be transferred to The Transport Company.

Proper accounting exists between the two companies with
4661 respect to disbursements of such Electric Company stock for Transport Company's purposes.

The Electric Company and The Transport Company have an agreement, whereby either company will provide the other with available vehicles on a car-hour rental basis, sort of a taxicab service.

The arrangement is especially advantageous in the case of special equipment with low use factor, such as trucks equipped with hoists, derricks, and so forth.

In general, even with standard equipment, the interchange agreement makes possible a lower total investment
4662 in vehicles, since, in any operation involving large numbers of trucks and passenger cars, a certain amount of dead storage time is involved.

—2,056—

The coordination of the garage and fleet facilities reduces the idle time to the very minimum.

These facilities are used, say, in such an instance:

The real estate department needs an extra car to go to a certain point at a certain time. It only has one car. It applies to The Transport Company for a car it may have on hand.

Similarly, The Transport Company may come to the Electric Company for a car or truck, to avoid buying one.

Q. Is there any joint arrangement with respect to a common medical department? A. There is; through an arrangement between the Electric Company, The Transport Company, the Employees' Mutual Benefit Association, and other affiliated Wisconsin companies, the Electric Company's Public Service Building at Milwaukee maintains what I think is a truly remarkable medical and surgical clinic.

Without the cooperative arrangement between the companies the present excellent facilities could not exist. 4664

In addition to the clinic, emergency operating room, and consulting rooms, the facilities include complete X-ray and fluoroscope equipment, bacteriological and physiological laboratory, physiotherapy facilities.

That refers to these new facilities for short wave heat-treating, where you have to get down deep with the heat.

—2,057—

The facilities and services of the medical department are available in cases of industrial accidents or illness involving employees of any of the affiliated companies. 4665

The department also serves transportation passengers or customers requiring emergency attention or later treatment due to accidents involving the service or equipment of the companies.

The medical department also serves the Milwaukee area by conducting all physical examinations prior to employment by applicants of the affiliated companies.

The chief surgeon and assistant chief surgeon of the Electric Company serve affiliated companies in other cities

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in Wisconsin, either in a consulting capacity or for surgery requiring special skill.

Dr. E. W. Miller, who is the chief surgeon, and also medical director of the E. M. B. A., is a very skilled surgeon of considerable renown in Wisconsin.

Many times I have heard him say, "Well, I am going down to Burlington," or "East Troy", or someplace like that, "to-night. So-and-so has to have an emergency operation for appendicitis," meaning someone on the Wisconsin
4667 Gas & Electric System, or someone located elsewhere.

The cooperative arrangement has demonstrated its many advantages to the affiliated companies and to their several thousand employees.

—2,058—

I testified yesterday, in connection with things which have been done to promote employee relations. I talked about the inception of the E. M. B. A. and the medical service that it gives.

It just so happens that that idea was formulated and
4668 fostered by the president of The North American Company in 1912, and I repeat that it is one of the greatest influences that I know of, in creating employees' satisfaction with their work. It is a great thing for an employee to know that all of his medical attention is taken care of, for himself and wife and dependent children up to 18 years of age, by the mere payment of 75 cents a month.

It is really the equivalent of an insurance operation. The funds are pooled. Everybody isn't sick at the same time. But the total amount that was paid in by the six thousand odd members of the several companies provides a working

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fund which, of course, the companies duplicate, which enables our employees to enjoy a degree of medical attention that I doubt is surpassed or even equalled in many places in this country.

Q. Does this pooling of facilities by the affiliated companies result in economies? A. There are unquestioned economies from the pooling of these facilities, that are almost self-evident.

No one company could hope to duplicate the medical department that we have on the fourth floor of the Public Service Building, except Wisconsin Electric Power Com- 4670

pany, and even that company gets benefits from the joint use by other companies.

Q. It reduces the expenses of that company? A. Anything contributed by the other company helps the company that would otherwse have the full load in any of these operations.

Mr. Browning: Mr. Examiner, we are using the term, "affiliated companies" throughout this testi- 4671
mony, and I think perhaps the record should show that, when using that term, we are referring generally to the corporations included within the so-called Wisconsin Michigan group of subsidiaries of The North American Company.

Could we take a few minutes recess?

The Examiner: We will have a five-minute recess at this time.

(Whereupon a short recess was taken.)

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By Mr. Browning:

Q. Will you state what work the advertising department of Wisconsin Electric Power Company perform for The Transport Company? A. The advertising department of the Electric Company is equipped and regularly performs advertising and publicity work for both the Electric Company and The Transport Company. With the combined function, it is possible to maintain a small group of advertising special-

4673 ists with the necessary diversification of skill at a good load factor. Without the combined function, it is doubtful if either company alone could justify such an organization as a department of the company.

Careful investigation has repeatedly indicated that, from the standpoint of cost, such an organization is advantageous to both companies.

This is the little group that, prior to the separation, did the advertising for The Milwaukee Electric Railway & Light Company, and it has just continued to do that work.

Q. Now, will you describe the inter-company services
4674 performed by the employee-training division of Wisconsin Electric Power Company? A. A division of the Electric Company is set up to conduct training work, which may be divided into the following activities:

Training.

Library services.

Accident prevention.

Special services.

A staff of trained people in the field of employee education is a part of the organization of the Electric Company.

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In some activities, training is done directly by members of the staff, while in others it only supervises the training program.

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One of the major activities is a foremen conference program, designed to bring about improved supervision, particularly with respect to employer-employee relations.

The meetings planned and material prepared for this program can, in many instances, be used in The Transport Company with little additional time spent or material used.

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Prior to the separation of the companies, the 400 or more so-called foremen met in little groups of 25 or 30, with representatives from various departments of The Transport Company, and the Electric Company together in a room, to learn about the other fellow's business and to discuss various types of programs and projects.

In that meeting, a representative of this training division is present and he does as little talking as possible, and merely directs the course of the discussion.

Since the separation, we have tried to keep up the same general type of program, because of the great advantages in it and I think we are successful in doing that.

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An apprentice-training program is supervised and counseled by the training division for The Transport Company, because contacts with vocational schools and regulatory bodies have been established by the Electric Company training division.

The machinery for the production of manuals, visual education material, posters, instruction books, having been

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established for the Electric Company, is available for producing similar material for the training of transportation employees, with reduced overhead costs to both.

I recollect, not long ago, that Mr. Nielsen, the educational director, was preparing a film to be shown throughout the various car stations to the trainmen.

It was an address by Mr. Pinkley, the president, followed by statements by the superintendent of transportation, Mr. Kuemmerlein, comments on labor and other things which
4679 were thought wise to put into the film.

That was prepared completely by this training division which was once the training division for both companies and now is formally the training division of the Electric Company, but made available for The Transport Company.

A member of the training division's staff is designated to do job training for car, bus, and trackless trolley repair men.

He has the supervision of the educational directors, stenographic and clerical help, and all training aids of the training division.

4680 The members are also available for special assignments during emergencies—if the foreman is ill, around vacation, or if a peak inspection period develops, assistance from this individual has proved to be helpful.

The training of office employees involves practically the

same procedure in both companies.

Bulletins, courses of study, manuals of instructions, are invariably conducted jointly.

While the Electric Company has by far the greater number of office employees, the addition of The Transport Com-

pany employees in any of these activities entails little extra expense.

The Electric Company, at its main office building, maintains a library of technical books, trade magazines, periodicals, and pamphlets.

Magazines are ordered, circulated and filed. Centralization of this function avoids duplication and reduces overhead charges.

Accident prevention activities are primarily educational in nature and as such are a part of the employee training 4682
division.

Program plans incorporate investigations and reports of accidents and also safety inspections and reports. Information concerning accident prevention equipment and material is gathered.

Investigations are made and recommendations are presented relative to the use of such equipment and material. Rules for safe conduct of work are developed and revised if necessary. Posters and bulletins are obtained or prepared and used extensively to further accident reduction.

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Safety codes and publications are obtained regularly for use in the program. Safety meetings are scheduled frequently. Articles are prepared for the employees' magazine which is known as the "Rail & Wire."

Statistical reports and accident studies designed to indicate the progress of the program are prepared periodically. Special studies of specific factors in accident prevention are pursued as it appears advisable and pertinent. Reports prepared in the industry are studied. Contact is maintained with the National Safety Counsel at small expense.

4684 The company engages actively in accident prevention presentation of the Milwaukee Safety Commission and the Milwaukee Association of Commerce.

These items and other activities pursued toward the reduction of industrial accidents are planned and reviewed regularly by a committee of executives and department heads. Since the problem of industrial accident prevention is very similar in the Electric Company and in The Transport Company, the latter company is also represented on this com-
4685 mittee and has available and uses the items of the program.

The Transport Company also has available from the Electric Company the services of its superintendent of accident prevention. Such consideration of industrial accident prevention by both companies is decidedly more advantageous and effective than would be divided consideration by separate accident prevention organizations.

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The prevention of public accidents in transportation service is an important activity in The Transportation Com-
4686 pany. The program covering this phase of accidents is under the direction of the transportation accident prevention committee composed of several of its executives and supervisory staff. The superintendent of accident prevention, of the Electric Company acts as its secretary, follows the assignments and assists in the development and pursuit of its program.

The training division is frequently called upon to assist in such special activities as contests for employees, dealers or the general public and the gathering of information from questionnaires and replies to requests for data.

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The experience of the employees of the training division is available to The Transport Company for such special activities. This, I think, is another example of the joint use of facilities which effect economies in this direction.

Q. Is there any joint use of employment facilities? A. Yes. We have a great variety of occupations in the electric heating and transportation business and many of these occupations can be filled only by employees who have undergone rather extensive periods of training.

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In order to select employees who are capable of developing into responsible operating employees, a testing program has been developed by the electric company.

An employment personnel has been established to develop

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and administer selection tests, that are used not only for new employees but also for employees that are to be transferred. Many years ago in this educational and employment division, we devised a special apparatus for testing of motormen. We tried to find out if there was such a device that he could operate on before his employment which would register some of his characteristics as to quick reaction time, safety in emergencies, and the like.

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We spent quite a little money and considerable time working on that. We had with us at that time a man by the name of Vitiles, who was very helpful in the development of that work and he later went with the railway.

We have had occasion to back-check on our judgment in using this selection test machine and we find that we have had rather good results from it.

4690 We have developed other types of tests for stenographers and they are rigidly put through a course of inquiry into their qualifications by the employment office before they are employed.

We attempt in all possible ways to sift out those who will not make good public service operators.

The Transport Company has problems similar to those of the electric and heating utilities. Experienced car and bus operators are not available on the open market. It is
4691 necessary to select candidates for employment who are likely to succeed after a rather extended training period.

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Failure to become a competent operator after time and money have been spent is a rather expensive procedure. In view of the rather specialized employment problems mentioned above, it has been found most economical and advantageous to operate a single employment bureau and have all selection tests conducted by one trained group of employees.

Not only does the operation of the centralized employment bureau eliminate the necessity for duplicate records,
4692 office space and office equipment, but it also results in obtaining of applications from a much larger number of people which in turn broadens and improves the field of selection.

The employment applications contained in the employment bureau are available to and made use of by Wisconsin Gas & Electric Company and Wisconsin Michigan Power Company in addition to The Transport Company.

Another important advantage made possible by the operation of a single employment bureau is that it provides a medium for the clearing of employment information and it

makes possible the leveling out of employment peaks and valleys.

Work in the various divisions as well as between companies can be scheduled so as to maintain continuous employment for the maximum number of people. The providing of more regular employment for employees performing certain types of work not only improves the position of these employees but the company is also benefited through the

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reduction of unemployment compensations and the training costs which are also present in short-term employment, even in the less skilled occupations.

Q. Does the Electric Company use the claim department of The Transport Company? A. It does. Before the separation of the two companies there was one claim department and the major amount of the claim work was in the transportation end of the business.

When the companies were separated, The Transport Company undertook with the same group of people the problem of handling the claims of the electric company, even though 4695
they operate in the transport building which is a separate building from that of the public service building in which the main office of the Electric Company is housed.

The Transport Company, because of the nature of its business, has many claims filed against it for transportation accidents and alleged accidents as well as a host of minor claims and over the years this work has of necessity been taken care of in what we call the claim department, with a well trained staff of investigators and agents, as well as an

4696 office force to handle the files of important records of claim cases.

It is quite important to keep that file because every now and then some fake accident is reported, sometimes you can trace back in the files that the same individual has tried it once before. You may not think that it is possible to do that

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but it is.

The Electric Company, because of the very different na-
4697 ture of its business has relatively few cases involving claims for accidents or due to the conduct of its business. The ratio of claim cases is about one electric case to nine transportation cases. Because of this situation, the electric company cannot justify a full-time claim agent and the necessary assistance. A part-time functionary would be possible, but claim settlements is a specialty involving great attention to detail, knowledge of accidents and their causes, knowledge of people and how to deal with them in such a way as to arrive at a just and fair settlement commensurate with the company's responsibility.

4698 I don't know of any branch of the company's business that is quite as important from the public relations standpoint as the claim department. A person who hasn't had his claim settled to his satisfaction is bound to be a sore spot for a long time so we have tried to instill in our claim forces down through the years, the fact that they are not only working to keep down the cost of claims, but they are working to preserve proper public relations.

Rather than establish its own claim department, the electric company has taken advantage of the availabiilty of the services of the well trained and efficient claim department

of The Transport Company and has contracted with that company to handle all of its claim work.

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I will be able to [illegible] you, when we discuss the method of inter-company charges, how the claim charges and costs that accrue against the Electric Company are paid to The Transport Company.

I think it is evident that with the small amount of claim work which the Electric Company has, the Company could not afford to set up a claim department such as it was used 4700
to having, when the two companies were together, but there is no good reason why it should not make use of this well trained and efficient claim staff and it does just that and it is an economical thing to do.

Q. Will you describe the joint use of the printing department of Wisconsin Electric Power Company? A. The printing department of Wisconsin Electric Power Company produces the major portion of all printing work required by the electric and heating utilities of the Electric Company and The Transport Company.

In the separation of the companies, this was a problem 4701
of deciding whether the printing business should go with The Transportation Company or remain with the Electric Company and it was decided that it was proper that it remain with the Electric Company on account of the vast number of different kinds of forms used and the growth of the Electric Company which was ahead.

The output of the printing department consists of electric service bills, payroll checks, office forms, advertising matter for the electric and heating utilities, railway and

—2,071—

motor bus fare tickets, transfers, passes, schedules, office forms, checks, and advertising material for The Transport Company. This printing material is furnished at a low cost because of the highly efficient use of capital, labor and material made possible by the combined use of the printing department by the electric and heating utilities of the Electric Company and by the The Transport Company, and the efficient use of specialized machinery in the maintenance of high load factor upon the machines. The combined orders for printed
4703 material are sufficient to fully utilize the capacity of several types of presses. Each job is turned out on the press most suited for the work and by specialized employees.

The combined volume is sufficient to permit simultaneous operation of two or more automatic presses by a single operator. The combined volume also permits adequate equipment which can be quickly made available for work of a special nature, unusual volume, and work requiring rapid completion. One special advantage of the diversified equipment and personnel which is made possible by the combined work of the electric and heating utilities in The Transport
4704 Company is the complete and accurate control of all valuable papers which are printed.

Transportation tickets, for example, passes, transfers, have a substantial cash value. Payroll and voucher checks are examples of other printed material which requires

special care to avoid theft.

Because the volume of combined work permits the use of several identical pieces of equipment and several employees of the same skill, the printing and other operations

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on valuable papers can be handled in a specially enclosed portion of the shop by a certain employee who can be made responsible for every sheet of paper or cardboard issued to them for printing.

This is possible because on the days when such valuable papers are printed, the main press room can go on with the regular production of miscellaneous material while a few employees can devote full time to the one job of printing the valuable papers.

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We check up on every sheet of paper issued to the printing department for ticket stock—torn sheets, destroyed sheets for one reason or another, together with the sheets of completed tickets so that there is no stock left and it is very important that this be done.

The material cost of printing is, of course, reduced because of the joint use of printing facilities, since paper, ink and other printing supplies can be purchased advantageously in larger quantities.

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I think we mentioned yesterday that the fact that we operate rather efficiently must be the case since we could not expect that that Capital Transit Company would give us the business at the prices we charged if they could buy

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them here with better work or lower prices.

Q. Is there common use of a physical and chemical laboratory? A. Before answering that question, I would like to add at the end of the discussion on the printing department that the printing department of Wisconsin Electric Power does a very substantial amount of business for Wisconsin Gas & Electric Company and Wisconsin Michigan Power Company at advantageous prices.

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(Discussion off the record.)

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Miss Calkins: Mr. Van Derzee, is the Capital Transit Company, located in the District of Columbia, the only other subsidiary of The North American Company for which the printing department does work?

The Witness: Outside of the Wisconsin-Michigan
4709 group, that is true. There are certain limitations to the amount of that kind of work that one can do effectively.

We are not seeking additional outside work.

By Mr. Browning:

Q. Now, will you describe for us the joint use of the physical and chemical laboratory? A. The electric company maintains a well equipped and staffed testing laboratory, primarily for the purpose of testing coal samples and other materials and supplies used in the electric and heating
4710 utilities.

Availability of such a laboratory has provided a convenient and economical service for The Transport Company in testing materials used in the construction and maintenance of street railway property.

One of the major services performed by the testing laboratory for The Transport Company is a testing of physical properties of concrete used in the construction of buildings and pavement. Other tests performed by the laboratory include such items as steels, varnishes, disinfectants, weed-

killing solutions, coal, acid and other material carried in the store rooms.

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The weed-killers are used on the right-of-way of the inter-urban lines.

Testing welds made by track welders has improved the efficiency of welders and reduced the number of expensive track repairs caused by broken track welds.

Street car wheels and axles are purchased in accordance with rigid specifications. The testing laboratory tests and 4712
analyzes the steels to check on the specifications.

Q. Is there a joint use of the pipe shop? A. Yes, pipe cutting and fitting becomes a sizeable task in the maintenance of power plant equipment when several large power plants, smaller heating plants and steam heating distribution systems are involved, taking care of this work.

A pipe shop has been equipped with pipe machines and a group of steamfitters and brick masons trained in the field of the work principally for the electric and heating utilities. A relatively small amount of heating equipment maintenance which The Transport Company has each year would not 4713
justify the organization and equipping of a pipe shop entirely for the transport operations.

The additional pipe work which The Transport Company furnishes, can be economically done by the present large force of the electric company pipe shop because it can be done during slack periods and thus provide an established work schedule for the pipe shop group.

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The boilers at seven car stations and one repair shop are inspected annually by these same pipe shop employees. Any

4714 pipes needing replacement or brick-linings in need of repair are taken care of at these inspections. A distinct advantage of having a pipe shop so conveniently located is the stock of fittings and valves carried for the electric company work.

This greatly reduces delay and obviously reduces the cost to The Transport Company. In the event of a failure of any of the heating units of The Transport Company buildings, delays in repair are reduced materially because a large group of trained employees are available at the electric com-
4715 pany.

From time to time, the street railway shops need odd pieces and sizes of pipe which can be obtained from the scrap piles of the pipe shop which reduces the amount of waste material for the electric company and produces low-cost source of material for The Transport Company.

A group of plumbers have their headquarters at the pipe shop although they are organized under the heating utility. Plumbing repairs in The Transport Company buildings are made by this group on inter-company orders.

4716 Installations of plumbing fixtures have been standardized throughout the two companies, which means that a group experienced with maintenance in one company can effectively take care of the work in the other company.

Q. Does the plant engineering department of the electric

company perform any inter-company services for The Transport Company? A. Yes, the plant engineering department I described yesterday in some detail and is one of the divisions which does work for the other companies, in the blueprint division. In addition to work for electric utility, em-

ployees of this division perform all the blueprinting work for the heating utility which embraces reproductions of plant lay-outs, plant equipment, underground systems, service installations and statistics.

Blueprinting is also performed for The Transport Company for all tracings which are in file in the plant engineering office relating to the properties of The Transport Company. This joint operation of blueprinting for the heating utility and The Transport Company, permits of a greater load factor for the blueprinting machine which in turn 4718 results in a smaller unit cost per copy.

It also allows for more efficient use of labor and materials as the volume of work rates a highly specialized type of worker and promotes operating economies.

Q. Is this also true of the photostatic division? A. Yes, the plant engineering department has a photostatic division. This division makes photostatic copies of correspondence, statistics and documents for the electric and heating utilities of the company and for The Transport Company. The

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investment in the photostatic machines is a large one and the 4719 volume of work to be performed is limited. Joint use is necessary in order to justify the expenditure for the present equipment.

Of course, a great deal of equipment of that kind was there when the two companies were together and it was justified by having the work that the transportation and electric and heating departments of the then Milwaukee Railway & Light Company provided.

Now that they are separated, there is the same work for the machine. You can't afford to get two machines where one

4720 will do the work. You would have two men working on two machines.

We have a drafting and engineering division of the plant engineering department. Engineers are engaged in drafting and engineering work for the electric and heating utilities and for The Transport Company where structural and architectural work is involved.

This may occur in the redesign of piant lay-out, rearrangements of plant equipment, modernization programs or
4721 new installations to attract new business and decrease cost of operation. Because of the wide experience of the engineers in similar work for the electric company and the singularity of purpose, this work can be done at the lowest possible cost and provides sufficient fill-in work to keep the engineers employed steadily.

—2,079—

We don't, in this division, take care of the engineering work, drafting, which is 100 per cent. peculiar to the transportation company.

It has its own engineers on track lay-outs and operations
4722 of that kind in the transport building.

There is another division called the building division of the plant engineering department. All work which would require additional expense for labor and special work which can not be conveniently handled by the heating utility or The Transport Company, because of their scope, and the fact that the work is infrequently performed, is assigned to the electric company's building division.

This work involves air-conditioning of buildings, painting of bridges, mason and shoring jobs, carpentry, painting and glazing work, and general maintenance of buildings of

the electric utility, the heating utility and The Transport Company.

These four divisions are concrete examples of economies that can be obtained from the plant engineering department by virtue of doing work for other companies which are affiliated.

Q. Is there any joint use of the purchasing and storage department of the electric company? A. The general office division of the purchasing and storage department performs both purchasing and stores service for The Transport Com- 4724
pany and heating utility in addition to the services performed

—2,080—

for the electric utility. Some of the services which are performed for other than the electric utility follow:

The first is under the heading of the purchasing division. Purchasing services are performed for both the heating utility and The Transport Company. These services cover the purchase of stock materials, purchases for direct delivery and contract purchases, and embrace the operation of obtaining price quotations and the determination of reliable ven-
dors who sell us the goods, placing the order and following 4725
the order right through to point of delivery. Passing of invoices to the accounting department for payment is also included.

Since the efficient performance of purchasing operations requires experienced personnel and careful attention to both current and future prices and conditions, it is more economical to have the purchasing services for both companies performed jointly by a single group than to set up several purchasing groups in each company.

4726 *Gould W. Van Derzee—By Respondents—Direct*

In the purchasing and stores department is also the division of the stores department. This division maintains a perpetual inventory record of all stock material carried in the store room, of the electric and heating utilities and The Transport Company; physical inventories are made upon the request of this division and all differences between the physical and book values are carefully reviewed and investigated.

—2,081—

4727 Joint performance of these operations by one group and under the supervision of one individual, eliminates duplication in personnel, records and equipment and results in lower cost for both the electric company and The Transport Company.

Q. Is there common janitor service? A. The janitors in the Public Service building are under the direction of the purchasing and stores department. The electric company operates janitor service for the entire building which includes services for offices occupied by the heating utility and the waiting station, car shed and car station of The 4728 Transport Company in the Public Service building. Individual performance of janitor services by The Transport Company and the heating utility would add to the personnel and supervision required and increase the cost to all concerned.

Q. Is there joint use of the real estate department? A. There is. The real estate department of the company maintains a staff whose broad knowledge of all problems concerning real estate is available to the electric and heating utilities and also to The Transport Company.

4729

The maintenance of a separate real estate department by The Transport Company is not justifiable when it is considered that the volume of work is sufficient only for one employee. Such an employee could not have the broad knowledge in all the related fields which is now available through a larger trained group.

—2,082—

It is in the interest of economy, efficiency and flexibility that a trained staff be maintained to provide joint service.

4730

Problems and transactions which are wholly or partially assumed by the real estate department for The Transport Company and which are also regularly handled for The Transport Company, including the following:

Purchase of properties needed for operation, disposition of properties no longer required, obtaining local tax bills and checking, checking assessments on non-operating properties to determine that they are equitable, and if they are not equitable, then the real estate department sees the assessor and puts in the usual story about what is a fair assessment.

4731

Payment of local tax bills, insuring that operating properties are exempt from local taxation; sometimes the character of a building changes and operations that were non-utility become utility operations and when that occurs it is the duty of the real estate department to follow it along and see that there is no local taxation on such a piece of property, that that is included in the ad valorem assessment made by the State on operating properties.

The care, maintenance and rental of non-operating properties is handled under the direction of the real estate de-

4732 partment. It obtains permits for overhead trolley lines, including attachment of wires to buildings and similar duties.

—2,083—

There is, in my opinion, very distinct and important economies in having this real estate department which formerly operated for both the electric, heating and transportation divisions of the old company continue in this work doing the same job for the companies which have been separated.

4733 Q. Does the power plant department of the electric company render any joint service? A. The power plant department operates all electric generation plants in the district heating system, and also the power plants furnishing steam to the district heating system. This centralized operation of power plants and steam service facilities for furnishing steam to the heating system has the following advantages:

The common usage of improved operating methods developed by large central stations such as Lakeside, maintenance crews of electric generating plants available for use in mak-

4734 ing repairs to heating boilers.

The labor of heating plants during off-heating seasons is used in electric generating plants for vacation relief and maintenance work.

That materially improves the load factor and reduces unemployment compensation. Experience, supervision and testing of crews maintained for electric generation eliminates duplicating these services for heating plants. Experience gained in plant design and construction of rapidly extending electric generating plant made available when extensions or

—2,084—

replacements are made in heating plants and service facilities. The steam furnished to the heating system is supplied from either boilers operated at approximately 165 pounds and supplying steam directly to low or high pressure systems, or from the exhaust of turbo-generators such as the 13,700 kilowatt machine that I described yesterday or the day before as being located there and performing the dual function of electric and heating production.

This combination of electric generation and by-product steam to the heating system has the following advantages, 4736
some of which I have previously enumerated.

Investment required in plant equipment in a combined plant is less than that required for separate plants and equipment to carry the same electrical and steam loads.

Steam generation by the boiler of the combined plant being used for both electric generation and steam for heating, reduces the total boiler capacity required considerably. The largest single loss of a condensing steam generating unit is eliminated by supplying the exhaust steam from the turbine to the heating system instead of to the condenser.

This large saving in heat consumption could only be made 4737
by a combination of electric and heating load. At the East Wells Street Power Plant, the heat consumed per net generated kilowatt hour, while exhausted to the heating system is about 5,000 B. t. u.

—2,085—

I think I went into that matter in some detail yesterday.

Q. I think you did. A. And I think I sufficiently explained the great economies that come from joint operation.

Q. I think you did. A. By taking out of the steam at high pressure a kilowatt hour before the steam is sent to

4738 the heating system. Substantial savings in operating costs such as labor, maintenance and supervision, are realized in the combined plant due to the reduced boiler capacity required to be operated to carry the combined load.

Q. Does the electric distribution department of the electric company perform any services for The Transport Company and the heating utility? A. The electric distribution department of the electric company performs services for the electric utility, the heating utility, and The Transport Com-

4739 pany.

The Transport Company also performs certain services for the electric utility of the electric company.

Following is a brief description of certain instances of these joint operations in the engineering division:

The engineering division performs services for The Transport Company upon order. These services embrace the handling of special problems relating to signal systems and railway feeders.

—2,086—

The engineering division is also requested to review all

4740 proposed feeder changes. The fact that the electric company has a staff of highly trained engineers is of material assistance to The Transport Company and that these engineering services are available to them at a cost far below that which would result if they maintained a complete engineering division of their own or employed the services of outsiders.

Engineering services are also furnished to the heating utility in the form of assistance on certain special problems and in working with the members of the heating utility to maintain proper clearance between underground structures.

4741

We also have an underground division in the electric distribution department. This division performs services for both the heating utility and The Transport Company. Services performed for the heating utility include primarily the digging of trenches and tunnels.

Inasmuch as the operations of the electric utility require a large amount of tunnel and trench work, performance of this type of work for both utilities by a single division reduces the cost of both by elimination of duplicate personnel and equipment.

4742

This division performs the underground cable work for the Transport Company. Inasmuch as the electric company has trained personnel and complete equipment for its own use, work can be performed for The Transport Company

—2,087—

at a fraction of the cost which would be required for The Transport Company to provide duplicate facilities.

The electric company also benefits in these joint operations in that it serves to improve the work load factor and spread overhead costs over a larger volume of the work.

4743

Approximately 935,700 feet of duct owned by the electric company is used for railway cables owned by The Transport Company; that is, all the duct in the separation of the companies was transferred to the electric company.

We have another division known as the testing division of the electric distribution department. This division performs meter testing services for The Transport Company and the heating utility.

—2,088—

Relative to work performed for the heating utility, electrically operated meters used to measure pressure in the

steam mains are tested, adjusted and repaired by this division. Other services performed by this division for the Transport Company are the making of electrolysis surveys, installing equipment in accordance with existing conditions and maintenance of records.

In view of the fact that the relationships of power cables, railway cables, telephone cables, etc., all have an effect upon each other, it is desirable that this work be performed by a single agency. Again, the performance of all work by a
4745 single group eliminates duplication of trained personnel, records and equipment, resulting in lower cost both for the electric company and the Transport Company, and in this same division we have the stores division.

The Hillside store room, in addition to carrying material and supplies for the electric company, maintains a stock of railway overhead and signal materials and supplies for the Transport Company. The store room maintains 24-hour service so that the material can be obtained for emergency use any time of the day or night.

Reclamation of used material is also performed by this
4746 division. Substantial economies accrue to both the electric company and the Transport Company for the joint use of these stores facilities due to the elimination of duplicate personnel, operating and supervision, buildings, equipment

and operation costs. This is particularly true when you consider that these storerooms are open 24 hours a day and the fact that you would have to have three shifts of duplicate personnel if you had to have separate organizations.

In the electric distribution department we also have a records division. This maintains a record of the Transport

Company's railway, field and signal system. Since maps, records, equipment, etc., are maintained by this division for the electric company the handling of these Transport records can be performed at a relatively low cost.

Then we have the trouble division of the electric company which is a division of the electric company which is a division of the electric distribution department, and it provides emergency service to the Transport Company. That is the same thing that it did for the transportation division of the old company before the separation. 4748

This service covers such items as clearing broken trolley wires and bridging feeder sections to maintain rail service.

Then we come to the telephone division. The electric company maintains a private telephone exchange which serves, in addition to the electric utility, the heating utility of the Transport Company.

Q. Heating utility and the Transport Company? A. And the Transport Company.

—2,090—

Out of a total of 1,418 instruments the Transport Company uses approximately 271 instruments jointly with the 4749 electric company and 318 instruments as direct or full use. This joint use of the private telephone exchange results in lower costs to each, namely the heating and electric utilities and the Transport Company, through reduction in investment and lower operating and overhead expenses.

That was one of the facilities that it would have been extremely foolish to have duplicated. The railway business requires telephones located on poles at various rail intersections which the trainmen use to call up the company on. The

telephone system is an extremely expensive investment and it was decided that it ought to remain with the Wisconsin Electric Power Company and that charges be made to the Transport Company for its varying use of the equipment.

This is the largest privately owned telephone system in the state of Wisconsin.

There are other services which are rendered by divisions of the electric distribution department. The pole crews of the electric company, in addition to performing services for
4751 the electric company, set poles for the Transport Company. The service can be performed at a relatively low cost because trained personnel and special equipment are maintained by the electric company.

The providing of duplicate facilities by the Transport Company to perform this work would very substantially in-

—2,091—

crease the cost to the company. The electric company also receives an advantage from this joint operation in that the additional work tends to spread the fixed operating items of
4752 expense and provide more work for the pole crews.

The line crews of the electric company assist the crews of the Transport Company in stringing of railway overhead feeders at times when the Transport crews have more work than can be performed within the alloted time. The furnishing of this service by the electric company makes it possible for the work of the Transport Company to be kept up to schedule without the hiring of additional employees for short intervals of time.

In many instances employees capable of performing the type of work required by the Transport Company are not

available except in the electric company. Several instances other than those previously mentioned in which the Transport Company performs services for the electric company can now be given.

The Transport Company crews performing trolley maintenance work observe the transmission lines located on the right-of-way and report conditions requiring attention. Transmission lines located on the right-of-way are the property of the electric company. This service is of material advantage to the electric company for corrective measures can 4754
be taken before a serious situation develops or outages occur.

The Transport Company's overhead crews operating in the northern division perform minor maintenance and con-

—2,092—

struction work on the electric company's transmission, distribution, signal and telephone systems located on the right-of-way. Performance of these services by the Transport Company employees is advantageous to both companies in that it provides a better load factor for the Transport Company crews and eliminates the necessity for additional personnel on the part of the electric company. 4755

The result of this joint operation is a lower cost to both companies. The signal crews in the Transport Company, in addition to maintaining a feeder system, perform some maintenance operations on the telephone system of the electric company in the outlying locations.

Just at the present time the Transport Company is completing a change of the so-called Eight Street line from rail service to trolley bus service and there is a stretch of some eight miles of this duplicate overhead trolley that has to be

placed on each side of the street. That is a tremendous job and the electric company in such instances helps out with any reserve forces that it has in that type of work. The trolley bus operations are extremely interesting and overhead trolley work for trolley buses is several times as complicated as overhead trolley work for street cars.

Q. Is there any joint use of work equipment? A. There is joint use of work equipment, heavy work equipment used on construction work performed by the companies, or on

4757 —2,093—

heavy maintenance work. It represents a substantial investment in individual items which have a poor use factor. Such equipment in general cannot be obtained as needed from an outside source on any reasonable rental basis.

It is therefore necessary for the companies to own such equipment as wheeled tractors, caterpillar tractors, air compressors, cranes, derricks, conveyors, hoists, pile drivers, concrete mixers, concrete breakers, draglines, pumps and electric shovels.

4758 Through an arrangement between the Transport Company and the electric company, each will own such equipment as is most frequently required in its work and will furnish to the other on a daily rental basis any such equipment as may be needed by the other. This arrangement reduces to a minimum the duplication of investment in the same items and classes of equipment. The arrangement also reduces to a minimum the equipment costs charged to the work of the Transport Company and the electric and heating utility of the electric company, in that the fixed charges and maintenance costs of such equipment are spread over greater

hours of use than would be the case without the interchange of equipment.

Q. Can you give us some other illustrations of jointly used property? A. I can; poles. Approximately 8,173 poles owned by the electric company are jointly used by the Transport Company. The electric company jointly uses 21.4 miles

--2,094--

of 600 volt D. C. feeder owned by the Transport Company. This figure does not include negative return. That feeder is used largely for certain 600 volt electric service customers 4760 of the electric company.

We still have quite a number of such 600 volt customers principally in the form of coal dock operators who originally bought 600 volt equipment to operate the motors on the cranes and hoists in the coal yard, because that was the best available type of current at the time.

(Discussion off the record.)

The Witness: A negative return is a return copper path for direct current which has gone out over a positive wire. An example might be this: You are 4761 all familiar with the type of street railway overhead that you find in most cities but which you don't find in Washington; up in the air is a trolley wire. That is the positive feeder. The current comes from the trolley wire down through the motors and goes ordinarily to the rails.

Now, you may have fortifying the return path of the rails to the sub-station a negative feeder which performs practically the same purposes as the rail but is frequently used in connection with electrolysis

4762 *Gould W. Van Derzee—By Respondents—Direct*

mitigation by providing another path for the current than that provided by the rail.

In the case of trolley bus systems the negative return in the second wire which is up in the air alongside of the positive feeder. In that case the current

—2,095—

goes from the positive feeder down the trolley pole, through the motors, and instead of going to the track which trolley buses don't have, it comes back up to
4763 the second wire and thence back to the station.

Q. Is there any joint use of sub-stations? A. Although sub-stations are not jointly used in the same manner as the equipment mentioned previously, that is poles and railway feeder, those sub-stations contain equipment used for the conversion of energy to the railway system. All sub-station equipment including conversion equipment used for supplying D. C. energy to the railway system of the Transport Company, are owned by the electric company.

In all there are 32 such sub-stations used in part or in
4764 whole, having a very substantial installed capacity. Although the sub-stations are owned by the electric company, employees of the Transport Company perform certain services in the operation of the sub-stations. Some of these instances will now be given?

On the coal line which runs from Lakeside plant cars are operated over such coal lines by employees of the Transport Company. These employees start and stop the operation of the sub-station in relation to their hauling operations. At East Troy, although the operation of this sub-station is automatic, the employees of the Transport Company start

and stop the operations of the sub-station by means of push-button control. The station is operated only when railway cars are being used.

—2,096—

In order that there not be any confusion in view of the fact that the testimony may show that passenger service to East Troy was discontinued sometime ago, I would like the record to show that freight service was not discontinued between East Troy and Mukwonago. There was left a short section of rail line between East Troy and Mukwonago where 4766
the Sioux line railroad enters and freight is obtained from the outside world at East Troy via the Soo Line and this remaining short section of old Transport Company track. The car operators of the Transport Company operate the push-buttons.

At Nemahbin, Oconomowoc, and Waukesha gravel pit we have sub-stations which are automatic. However, the operators of the interurban cars, employees of the Transport Company, assist in the operation of these stations by observing when they pass the station whether or not the 4767
signal light located on the outside of the sub-station is lighted. If the signal light is out this is an indication that the station is not operating and the interurban car operator reports this fact to the dispatcher.

At the Oakland Avenue sub-station under certain operating conditions this station will lock out and must be started manually. The manual starting operation is performed by car house employees who are employees of the Transport Company, upon instructions from the electric company load dispatcher.

4768 Q. Is there common use of the Public Service building in Milwaukee? A. The electric company, as owner of the

—2,097—

Public Service building, rents space in the building to the Transport Company for such purposes as passenger waiting stations, car sheds, repair pits, and division office; due to the fact that the facilities mentioned above were contained in the Public Service building prior to the separation of the companies in October of 1938, it is advantageous that joint

4769 occupancy be continued.

It would be extremely costly for the Transport Company to provide these facilities elsewhere and at the same time the electric company would suffer a loss of revenue and be in possession of additional building capacity now not needed at the present time.

One of the main reasons why the Transport Company can't move is that its tracks all converge to that point as a waiting station.

Q. Is there a common use of any other buildings and property? A. Yes, in addition to the Public Service build-

4770 ing there are other bulidings and property of lesser consequence which are used jointly by the companies. Several instances are Kinnickinnic car house and North Water Street yard.

A portion of the Kinnickinnic car house which is owned by the Transport Company is rented by the electric company. Certain garage and storage facilities of the North Water Street Yard which is owned by the electric company are rented to the Transport Company.

—2,098—

Q. Is there any joint use of right-of-way? A. Yes. Since in certain instances the rail lines of the Transport Company and the transmission lines of the electric company go in the same direction and to the same points, it is highly advantageous for both companies that a single right-of-way be used jointly by both companies. Approximately the huge sum of $3,600,000 is invested in the joint right-of-way used by the two companies.

I think we can say very forcibly that in the aggregate there are very large savings in these joint operations which 4772
give large economies to each of the three businesses which would be impossible except for the fact of common ownership.

Mr. Browning: I think we have reached a convenient point.

The Examiner: All right, we will recess until tomorrow morning at ten o'clock.

(Whereupon, at 4:30 o'clock p. m. the hearing was adjourned to reconvene at 10:00 o'clock a. m., the following day.)

4773

Vol. V

TRANSCRIPT OF RECORD

Supreme Court of the United States

OCTOBER TERM, ~~1942~~ 1943

No. ~~721~~

THE NORTH AMERICAN COMPANY, PETITIONER,

vs.

SECURITIES AND EXCHANGE COMMISSION

ON WRIT OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE SECOND CIRCUIT

PETITION FOR CERTIORARI FILED FEBRUARY 10, 1943.

CERTIORARI GRANTED MARCH 1, 1943.

United States Circuit Court of Appeals

FOR THE SECOND CIRCUIT

October Term, No. ——

THE NORTH AMERICAN COMPANY,
Petitioner,

v.

SECURITIES AND EXCHANGE COMMISSION,
Respondent.

TRANSCRIPT OF RECORD

TESTIMONY

Volume V

(Pages 1592 to 2043)

ON PETITIONS FOR REVIEW OF ORDERS OF SECURITIES AND EXCHANGE COMMISSION

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4774

BEFORE THE

Securities and Exchange Commission

Docket No. 59-10

IN THE MATTER

of

THE NORTH AMERICAN COMPANY, *et al.*

4775

Hearing Room 1102-A,
Securities and Exchange Commission Building,
Washington, D. C.,
Friday, September 27, 1940.

Met, pursuant to adjournment, at 10:00 o'clock a. m.

Before: W. W. SWIFT, *Trial Examiner.*

4776 Appearances:

S. PEARCE BROWNING, JR., and

CHARLES S. HAMILTON, JR., of Sullivan & Cromwell, 48 Wall Street, New York City, Attorneys for the Respondents.

HERMAN O'DELL,

MISS E. H. CALKINS, and

C. M. MAXWELL, Attorneys on behalf of the Securities and Exchange Commission.

—2,100—

PROCEEDINGS

Mr. Browning: I should like to have marked for identification as Respondents' Exhibit No. 41, a chart entitled, "Wisconsin Electric Power Company, Organization Chart".

The Examiner: All right.

(Chart was marked for Identification as Respondents' Ex. 41.)

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Mr. Browning: As Respondents' Exhibit No. 42 for identification, a chart marked, "Organization Chart, Wisconsin Gas & Electric Company", and as Respondents' Exhibit No. 43 for identification, a chart marked, "Organization Chart, Wisconsin Michigan Power Co."

The Examiner: They may be so marked.

(The two charts described were marked Respondents' Exhibits 42 and 43.)

Whereupon, GOULD W. VAN DERZEE resumed the stand and testified as follows:

4779

Direct Examination by Mr. Browning (Continued):

Q. Mr. Van Derzee, I hand you these three charts which are Respondents' Exhibits Nos. 41, 42 and 43. Were these prepared under your direction and do they correctly set forth the facts shown therein? A. They were, and they do.

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Mr. Browning: I offer these charts in evidence as Respondents' Exhibits 41, 42 and 43, respectively.

Mr. O'Dell: No objection.

4780 *Gould W. Van Derzee—By Respondents—Direct*

The Examiner: They are received in evidence under the numbers respectively assigned them.

(Exhibits 41, 42 and 43 for Identification, received in evidence as described.)

Mr. Browning: I may say further for the record, Mr. Examiner, that I have offered these charts at the request of counsel for the Commission.

The Examiner: Yes, I recall hearing that request
4781 yesterday. Thank you.

By Mr. Browning:

Q. Are there instances of joint operations of personnel or facilities by Wisconsin Michigan Power Company? A. Yes, the executive officers of Wisconsin Michigan Power Company are charged with the general administration and supervision of the electric, gas and transportation divisions of that company. The executive and general office division is located at Appleton where many of the functions common to the gas, electric and transportation services are performed
4782 jointly by the general office employees. Joint use of the facilities provided in the general office naturally materially reduces the overhead costs incident to those operations.

I will give you a few examples of joint operation. The

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advertising and sales promotional group develops advertising ideas and merchandising policies used to promote the sales of gas and electric service and also merchandise in those groups. An effective but inexpensive method of advertising gas and electric service and also merchandise in

those groups is accomplished by placing advertising car cards in the buses of the Wisconsin Michigan Power Co.

The general accounting division of the company accumulates and summarizes all charges to the various operating accounts, prepares regular and special reports such as the financial and operating report, statistical reports, etc., for the gas, electric and transportation operations. This division also receives all vouchers covering equipment, materials and supplies and services purchased for use by the gas, electric and transportation divisions, verifies the charges and 4784
issues the checks in payment for all such purposes.

The payroll accounting group performs all time-keeping functions, prepares payrolls and payroll distributions, and issues payroll checks for all of the employees engaged in the gas, electric and transportation operations. The employees' records are also kept by this group. The joint performance of payroll operations results in lower costs for the electric, gas and transportation systems in that all duplication of personnel, records and equipment are eliminated.

—2,103—

The centralized typing and stenographic group performs 4785
all typing and stenographic work incident to reports and correspondence and data prepared by all divisions in the general office group.

Telephone and switchboard operaters handle all incoming, outgoing and internal calls for all three divisions of the company, thus effecting some economies that would not be present if each were separate and each had to have a telephone operator and local switchboard.

Employees of the general engineering division are engaged mainly in laying out and preparing working drawings for the

construction and maintenance of the electric distribution and transmission system. They also handle any construction and special projects for the manufacture and distribution of gas. A testing laboratory which is a part of this division makes analyses of coal, which is to be used for both the electric and the gas business. It is not the same coal, however, that is used for the production of steam that is used in the gas business. Separate testing laboratories for analyzing such coal would naturally cost more, both from the stand-
4787 point of labor involved and the necessity for more equipment.

Smoke and dust analyses at both the electric generating plant and the gas production plant are also made by the one chemist who operates the one laboratory.

The general engineering division also does blueprinting and duplicating and lettering for all the utility services. The

—2,104—

fact that these facilities are used jointly results, we believe, in lower costs.

There is also a greater load factor on the smaller division that does this work than would be possible if there were three
4788 separate divisions doing this work.

We have a property records division. It analyzes all work orders and retirements and distributes the cost of materials and labor to the capital accounts of the gas, electric and transportation systems. This group also maintains the proper records of each of the operating divisions.

The map records of both the gas and electric systems are also maintained in that division. We have a purchasing and storage department in Wisconsin Michigan Power Company at Appleton. Services performed by this division embrace

4789

purchasing and store-keeping operations and are performed for the electric, gas and transportation systems.

Obviously the elimination of dupuicate facilities which would exist if each of these systems performed their functions individually results in a lower cost for each. The delivery of all gas and electric appliances is also handled by this group.

If Mrs. Jones, alongside of Mrs. Smith, wants a gas range, while Mrs. Smith wants an electric toaster, one truck will accomplish the same delivery.

4790

We have a customers' accounts division in the southern

—2,105—

division of the company and this southern division figures, prepares and proves both gas and electric service and merchandise bills rendered to the customers. This is a joint operation, that is one billing is prepared for each customer, covering both gas and electric service and gas and electric merchandise.

A substantial saving in the cost of preparing customers' bills is thus effected by this joint process, in that only one addressograph operation is necessary and only one bill is handled in the machine, billing and proving operation. The collectors interview both gas and electric customers in an attempt to collect delinquent accounts. A saving is effected by this arrangement since it is necessary to have only one interview with the customer.

4791

Tellers located at the various company sales offices accept payment for both gas and electric service and merchandising bills. In addition to the collection work the tellers also receive service applications, disconnection orders

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and change of residence orders for both gas and electric service.

The cashier of the company receives and audits all collections for gas and electric services and merchandise accounts made by the tellers and collectors, as well as all fares collected in the transportation business.

—2,106—

We have a merchandise sales division in the southern division of Wisconsin Michigan Power Co. The merchandise
4793 sales force displays, demonstrates and sells both gas and electric equipment and appliances on customers' premises as well as at the company's sales offices. Joint use of these sales facilities results in a saving in the cost of merchandising which would not exist if the gas and electric equipment were sold by separate companies and salesmen.

The merchandise sales division also employs several inspectors and service men whose duties are to inspect periodically and make minor adjustments to both gas and electric appliances purchased by the customers.

In the southern division of Wisconsin Michigan Power
4794 Co., there is an electric distribution department. This department maintains a carpenter shop which is jointly used by the gas and electric utilities and the transportation system. Repair work on transportation business as well as the building and special equipment and repair work for gas and electric utilities is performed in this shop.

Considerable saving results from this joint use of personnel, buildings and equipment. The reading of gas and electric service meters in the communities where both services are available is one of the most evident instances of joint operation being a saving. A substantial saving in the cost

of rendering service bills is effected by this arrangement in that only one trip to the customer's premises is required. Due to the fact that only one bill is issued to the customer for both gas and electric services, a similar saving is effected

—2,107—

in the bill delivering.

We have a power generation department of Wisconsin Michigan Power Co., in the southern division. The plant maintenance men perform all maintenance operations such as repairing and cleaning mains and other plant equipment 4796
in the gas plant as well as in the electric plant. A machine shop is a part of this division and is used to build special equipment, and to repair equipment for both the electric and gas utilities and transportation system. Again, the elimination of duplicate facilities through joint operations results in lower costs.

The only gas distribution department of the company is that which is in the southern division. No gas is sold in the northern division. The gas meter men in the Neenah district perform electric meter connections and disconnections as well as gas meter work. This arrangement results in 4797
improved operating efficiency, since it is not necessary to send an electric meter man to this district to take care of the small volume of the daily work.

The gas distribution department operates a blacksmith shop where repair and welding work are performed for the transportation buses in addition to repairing of tools, material, welding and the building of special equipment for gas and electric operations.

We have a transportation department in the southern division. This department maintains a garage where gas

4798 and electric utility vehicles are housed, serviced and re-

—2,108—

paired, as well as the transportation department buses. This joint use results in operating economies in that special facilities for the repair and housing of vehicles of each utility and the transportation department are not necessary.

Bus operators are frequently used to perform work in the general storeroom in a period between rush hours in order to utilize their time instead of paying minimum wages
4799 under the contract which we have to do whether there is certain transportation work or not.

Q. Will you now give us the instances of joint operation by Wisconsin Gas & Electric Company? A. In view of the fact that Wisconsin Gas & Electric Company furnishes utility services in a wide area where there are many small cities and communities, joint operation of two or more services makes possible many economies and better service than would exist if each service were performed separately. Duplicate office space and personnel would definitely increase the cost of each service over present costs.

4800 There are a number of divisions which I will now describe in Wisconsin Gas & Electric Company where there are instances of such joint operation. The officers and executives of Wisconsin Gas & Electric Company form the policies and manage the operations of the entire company which includes the electric, gas and heating utilities and the transportation system.

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The background required for management of each utility operation is usually entirely useful in the operation of

another. Thus the management of all utilities of the Wisconsin Gas & Electric Company, by a single management group, makes it possible to administer the affairs of the company in a more efficient and effective manner than would be possible if each of the utility services were carried on by a separate corporation.

It so happens that in a few of the communities served by gas through Wisconsin Gas & Electric Company an associated company, the Wisconsin Electric Power Co., furnishes electric service. The relation of these two companies has 4802
made it possible to eliminate duplicate office facilities and personnel by having the one company use jointly the facilities of the other.

Whichever company can more economically perform the services of the other is given the work to do.

That relationship just described is more definitely covered by testimony in connection with the joint functions in the city of Racine, where Wisconsin Electric Power Co. does the electric service business and Wisconsin Gas & Electric Company the gas business, and because of the fact that the home office of the Wisconsin Gas & Electric Company is at Racine 4803
it takes the lead in doing the joint operation for compensation at rates and on a basis previously described.

The general accounting department accumulates and summarizes all charges for various accounts of the gas, electric and heating utility and the transportation system. This

department assembles data for and prepares various types of reports such as financial and operating reports, statistical reports and reports required by the various government agencies.

4804 The general accounting department receives all vouchers for materials, supplies and services purchased by the various utilities in the transportation department, ascertains the correctness of the charges and issues the checks in payment therefor.

The stores accounting group maintains and posts to the stock record cards all receipts and disbursements of materials, merchandise and supplies for the gas, electric and heating utilities and the transportation department. This
4805 group also prices, extends and obtains the cost of all merchandise, materials and supplies disbursed, prepares the journal entries of material charged to the various accounts, and maintains a running inventory of all materials and supplies which have been purchased for the three groups.

Performance of these joint operations by a single group results in lower costs for each utility and the transportation property than would be the case if these services were performed separately by each utility and by the transportation department. The lower costs are due to the elimination of duplicate personnel, records, equipment and office space.

4806 The pay roll accounting group performs all types of timekeeping and pay roll operations for the electric, gas and heating utilities and the transportation department.

—2,111—

This group also maintains employee record cards, prepares and maintains earning record cards for all employees of the company. In the preparation of pay roll checks an addressograph machine is used which materially reduces the time and cost of performing the work. Inasmuch as this machine is also used for the preparation of gas and electric service bills, the resultant joint use increases the load factor

of the machine and lowers the cost of all addressograph work performed.

The auditing and developing group audits gas, electric, heating and transportation accounts. This group also audits the funds of the cashiers and the transportation station clerks. One of the functions of this group is to develop procedure, relative to customer accounting practices of the gas, electric and heating utilities.

We have a general engineering department of the Wisconsin Gas & Electric Company which is located at Racine. 4808
Services performed by this department cover electric, gas and heating utilities, and the transportation system as their needs arise and embraces such operations as development work on new projects, the preparation of orders covering construction and maintenance work, and formulation and issuance of job specifications relative to gas, electric, heating and transportation work.

This group is also responsible for the standardization of construction of electric and gas mains throughout the company's territory.

—2,112— 4809

In view of the fact that the performance of this engineering work requires specially trained and experienced personnel, and also in view of the fact that many of the engineering problems relative to the one utility directly affect one or more of the other utilities, it is inconceivable that engineering services could be performed separately by each utility and the transportation department without a great sacrifice in operating economy and efficiency of operation.

Mr. Browning: Read that last sentence back, please.

4810 *Colloquy*

(Testimony indicated was read back.)

The Witness: The property record group analyzes all work orders and maintains property records for the electric, gas and heating utilities of the transportation system.

The drafting group prepares all sketches and layouts and detailed drawings for construction and maintenance work for the gas, electric and heating utilities of the transportation division.

4811

The blueprinting and photostatic group makes blueprints of maps, reports and drawings and photostats of letters, legal reports, and records required by the various departments of the company. This joint performance of blueprinting and photostating operations permits of a greater load for the equipment and results in a smaller unit cost of production.

There is a general sales division of Wisconsin Gas & Electric Company located at Racine.

—2,113—

4812

The sales promotion group develops methods of merchandising the several services of the company and sees to it that these methods are properly executed by the salesmen in the sale of gas and electric services.

We also have the purchasing and stores department which is centralized at Racine. The purchasing group performs the purchasing services for the gas, electric and heating utilities and the transportation department. These services embrace the obtaining of price and quantity quotations, preparation of purchase

4813

orders and following the transaction through to completion. Since the efficient performance of purchasing operations requires experienced personnel, it would be a very costly duplication if each utility had to have a separate purchasing department.

The office service division of Wisconsin Gas & Electric Company at Racine types all reports, letters, forms, orders, stencils, and other material for the executive and general office departments located in the general office building.

4814

Since these departments perform joint services for the gas, electric and heating utilities, and the transportation department, it follows that the office service division also performs joint services.

The operation of a centralized typing group is most efficient when the work load factor is maintained at a high level. The fact that this division performs typing work for all departments makes it possible to

—2,114—

have a reasonably high load factor and to obtain unit costs that are low.

4815

The addressograph group performs services for the three utilities in the transportation department. These services include addressographing the bi-weekly and monthly pay roll distribution sheets and pay roll checks for all employees of the company.

This group also addressographs the gas, electric and steam bills for all division offices except for West Bend. At that point they have a post card type of billing which uses its own particular type of machine.

4816 *Colloquy*

The performance of addressograph work for joint utility and transportation offices makes possible the economical use of the expensive addressograph equipment.

The stationery stock group has charge of receiving, storing and disbursing of all forms and stationery supplies for the company.

We have certain division offices. The area served by the company being spread out over so many com-
4817 munities in southern Wisconsin has made it economical to divide the territory into four main divisions. Each division has a manager who is responsible for all utility operations in his territory that are not performed by the central offices.

Later on in my testimony we will tell more in detail about the division offices and the district offices, and describe to you fully just how Mrs. Smith gets

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electric service in a small community.

In this connection it should be understood that
4818 while there is duplication of certain functions in each territory, the following description will deal with the joint operations of the utility in each division.

The stenographers and typists perform services for all utilities in the division in which they are located. The services embrace such operations as typing letters, forms, cutting stencils, filing correspondence, etc.

Customers' accounting division figures bills, proofs and balances service and merchandise accounts for the gas and electric utilities. Where a customer has both gas and electric service the charges for both services

are placed on a single bill. Some advantages which accrue from this joint billing procedure include: only one bill being needed; one addressograph plate necessary; only one bill needs to be addressographed; there is less machine and labor cost per account in billing and the unit cost per account in proving is lower.

When a customer has both gas and electric service the meter reader obtains both gas and electric readings when on the premises. As a customer, you know that it is very discouraging to have men appear a num- 4820
ber of times from a company on different operations and the more that can be done in one operation and the less visits, the better the customer likes it, so there is a public relations aspect to this problem of meter

—2,116—

reading which I am describing primarily as a joint operation which reduces unit costs.

Similar savings are realized in the delivery of bills, since one bill covers both gas and electric accounts.

The storeroom in the division takes care of the receiving, storing, handling and disbursing of equip- 4821
ment, materials and supplies for the gas, electric and steam utilities. That applies in the one division where there is the steam utility, and in other divisions where gas and electric alone are supplied you have the benefit of the joint operations naturally applied to the two services.

A great deal of duplication and loss of economy would result if these services were performed separately for each utility. The cashiers in the divisions receive payment for gas and electric services, mer-

4822 chandise and appliances. A saving in labor cost is effected by having the payments for all utilities collected by one group of employees.

The collector interviews customers having both gas and electric service in an attempt to collect delinquent accounts. This collection service, as distinguished from the one just mentioned under cashiers, applies to collectors who go out in the field on delinquent accounts.

4823 A saving is effected by this arrangement since it is necessary to make only one interview to collect both accounts.

—2,117—

Service applications for service or change of address orders for both gas and electric services are handled by the same people.

In the local offices in the divisions the showrooms display both gas and electric appliances and merchandise. Company salesmen sell both gas and elecrtic service appliances and merchandise which unques-

4824 tionably makes for better merchandising in the smaller communities.

Employees of the division distribution office work in conjunction with the general engineering office in scheduling work to be done, in standardizing methods of construction, and in the installation of all utility services and equipment. The stabilization of employment and higher annual earnings per employee are possible through such an arrangement.

Service to the customer is improved when the trouble men who perform customer service operations

are trained in all types of work. Fewer trucks are required and less time is wasted when a trouble man can be dispatched to take care of either a gas or electric trouble call.

The joint performance of gas and electric service operations makes for better service to the customer and reduces costs to the company in the form of reduced personnel.

In one of the communities, Waukesha, where gas and electric service is furnished, we have previously 4826
indicated to you in the testimony that downtown steam service is available. Employees trained in the

performance of gas operations can readily perform steam heating operations, thus eliminating the necessity of having to maintain a separate group of specially trained employees just for the steam heating work.

In addition to using the steam generated at the Waukesha power plant for steam heating purposes, such plant is used to supply steam for the gas holders 4827
during the cold weather, thus eliminating the necessity for the gas utility to provide a separate source of water heating.

In the city of Kenosha exists the only transportation division of Wisconsin Gas and Electric Company. In this case linemen who string wires for electric service use the same skills in maintaining the railway overhead and distribution system. This is a trolley bus system, having the duplicate overhead trolley that I described yesterday.

4828 The accounting operations relating to transportation operations are performed with resultant economies to each. The building used for the housing and repairing of transportation vehicles is also used for gas and electric vehicles.

The garage employees repair and maintain vehicles used in the operation of both the electric and the gas utilities and the joint use of storage and repair facilities reduces the amount of property investment
4829 and effects operating economies by eliminating both duplicate facilities and personnel. We are certain that there are important operating economies in all of our companies resulting from three executive officers

—2,119—

common to each.

There are not only obvious economies but the fact is that the Transport Company, Wisconsin Gas & Electric Company, Wisconsin Michigan Power Co., and Wisconsin Electric Power Company could not afford to pay the real value of the consulting services of
4830 the common officers.

Q. In addition to common general executive officers, the organization charts also show other common officers. I believe that the secretary and treasurer is common to all companies, and that some, if not all, of the assistant secretaries and assistant treasurers are common to all companies. Does that also result in economies? A. That does result in a very definite and entirely obvious economy. I did not include those you have listed because the general executive officers, as we think of them, would not always include such officers.

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Q. Is the problem of obtaining capital an important one in the public utility business? A. It is extremely important. There are few businesses in which the problem of obtaining new money to maintain and extend services is as extensive as in the public utility business. In this field the extension of electric service facilities has been most marked.

In the two decades following 1910 tremendous demands for capital to finance the rapid growth in number of customers were experienced. In the last decade where there has 4832

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been a moderate increase in the number of customers the principal need for increased electric service plant has arisen from the expanded use of electric service in all fields of application. Some of this increased use has been due to the introduction of electric service in new fields. Some of it has been due to increased use in old fields, and some of it has resulted from the ability to do things better electrically that have heretofore been performed by other methods and other fuels.

There has been a tendency in recent years towards increased costs in operating equipment. A turbo-generator recently purchased by Wisconsin Electric Power Co., for example, cost us over 45 per cent. more than the identical machine purchased in the year 1930. Similar comparisons can be made with many other items entering into the plant of an electric utility and in the case of increased capital requirement depreciation reserve funds have been entirely inadequate to cover even temporarily the needs for new capital, even though the depreciation has been set up on an entirely adequate basis. 4833

4834 *Gould W. Van Derzee—By Respondents—Direct*

At best the use of depreciation reserve funds to finance the current growth of the property is only an expedient because some day the property for which these funds are set up will wear out and you will have to have the capital to replace it.

Many problems of financing are peculiar to the utility industry. For example, the investment required in the electric utility is very substantial in relation to the annual rev-

—2,121—

4835 enues derived from the sale of electricity. About $5.00 of invested capital is needed for every dollar of operating revenue obtained from the customers of the electric utility. This factor, it may be said, is inherent in the business and will always be with us unless some very revolutionary methods are discovered which will cheapen the process of generating electricity from the power in coal and falling water, and particularly change the method of distribution which requires a complete metallic circuit from the terminals of the generator to every electric appliance throughout the whole territory.

4836 Also the utility must hold itself out to serve all customers on demand. It cannot pick and choose if for some reason it is not convenient to get the capital required to make the extension. This means that it is thrown into the financial market for capital many times when the markets are not favorable to the obtaining of capital.

Just compare this situation with that which confronts other types of private industry. A chain store or a department store, for example, may turn over its capital, and does turn it over, many times a year. If it does not wish to carry a certain line of goods it ceases to carry such goods, even

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though the customers come frequently and ask for that particular type of article. Extensions of plant can be made solely at the discretion of the management of a department store at times when capital can be obtained on the most

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favorable basis.

There is no customer who can go into a department store demanding delivery of certain goods who can force the department store to carry such goods and to effect such delivery if the owner does not want to make delivery of that type of article.

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In this connection it is interesting to note that the electric utility business is the only business in which the product or service is ordered, manufactured and delivered at one and the same instant. If the customer wants toast for his breakfast at his home 50 miles from the power plant, there must be whirling generators at the plant, a continuous metallic circuit underground through the streets and through the rural territory, without a single break from the terminal of the generator to the toaster cord. He snaps the switch of the toaster which is his way of placing an order for the specific delivery of service. Before the click of the switch has died away the order has been flashed to the generator, the electricity has been manufactured and the toaster coil begins to heat.

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The process must be continuous to give satisfaction to the customer. There is no storing of electricity possible for such purposes. The plant must be of size to handle these instantaneous demands, no matter where they come from or their magnitude, and it is in connection with that condition that we find very large demands for capital to finance the huge

investments necessitated by the peak demands and that brings with it these intricate financial problems to make

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financing such an important matter in this business as compared with others.

Not the smallest of the problems in the field of utility financing is laying out a long-term financial plan and being able to follow it. In the case of Wisconsin Michigan group we have attempted to outline over a period of years programs
4841 adequate to meet the constant requirements of the companies for new capital.

For example, Wisconsin Electric Power Co., adopted several years ago a plan for financing extensions to the East Wells Street power plant and the Commerce Street power plant. We thought that we had provided adequate capacity to take us well through 1941, but you know what happened. The preparedness program of the Government made it necessary for all of the utilities to give careful consideration to being able to meet all expected demands and some emergency demands that might be necessary in the national defense,
4842 and so there we were with that problem on our hands.

We decided that in the public interest we should order another 80,000-kw. turbine for an extension to the Port Washington plant known as Port Washington No. 2. We did that even though the financial media have not as yet been worked out to carry through the development.

This project would not have been undertaken were it not for the advice and the encouragement of The North American Company which, during a long history of growth of the

—2,124—

Wisconsin Michigan group has, on many occasions, furnished the necessary backing.

Q. Have the companies in the Wisconsin Michigan group had any difficult financing problems over the years? A. The Wisconsin Michigan group and particularly The Milwaukee Electric Railway & Light Company, have had many difficult financial problems down through the years. Obtaining the necessary capital has been a constant struggle as I will show, but we executives in Milwaukee have never had the type of worry which the public utility executives would ordinarily 4844
have. In effect The North American Company, over the years, has been our financial backer and as a result we have been freer to devote our major attention to other phases of the business.

Our unusual technical achievements can, in part, be attributed to the fact that we have been left so free to concentrate on the operating side of the business.

The financial history of the companies illustrates graphically the progress in the industry. Constant building up and putting inefficient small companies together to make large efficient coordinated units which can give better service at 4845
lower costs is an example. This growth is not completed.

Before going into the history of finance of these companies, it might be well to get the perspective that comes from looking at the first evidences of service of different types that we had in the Milwaukee area.

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I will give you a little description of the first street railway that we had in Milwaukee. It was known as the River and Lake Shore Railway Company. It was the first to provide street railway transportation service in the city of Mil-

4846 waukee. A franchise was granted to this company September 24, 1859 permitting it to construct and operate a street railway upon whatever streets it chose from Walker's Point bridge to the Sisters' Hospital at North Point. That is a distance, I would say, of about two miles.

The Milwaukee Sentinel of May 31, 1860, makes this rather short comment:

> "Yesterday afternoon about five o'clock two cars of our street railway company, drawn by four horses
4847 each, started their first trip from Walker's Point bridge to Division Street."

Apparently the horse car business in those days was not very profitable because a history written by one John G. Gregory, makes this comment about the horse car line that we just discussed: It says,

> "Money was scarce and the undertaking did not pay. In 1869 the franchise and all of the rights and property of the company were sold to Issac Elworth, who took up the lines on the east side and relaid them
4848 on the west side, on West Water Street, from which in time extensions were constructed to Reed Street on the south and Third Street on the north."

Although it appears that the River and Lake Shore Railway Company was the first company to operate street railway service in Milwaukee, the following are a few brief comments relative to the Milwaukee City Railway Company:

The company was incorporated on March 28, 1865. The Council, taking its cue from the general feeling of the public,

as it usually does, was ready to grant them permission to pick out their right of way and lay tracks to their heart's content. The company, however, found scanty profit in the transportation business and sold out to Mr. Elworth at the time he purchased the property of the River and Lake Shore Railway Company.

The record shows that both horses and mules were used to draw the cars in this early period. The record further indicates that the West Side Street Railway Company preferred the use of horses, whereas the Cream City Railway 4850
Company preferred the use of mules.

Another type of motive power for cars was steam power and the record shows that in 1875 a steam-operated road called the Forest Home line was built and operated, using a steam engine for motive power.

A few years later, in 1878, this line was purchased by the Cream City Railroad Company which company discontinued the use of steam power and substituted horses.

The first experiment with electrically-operated cars in the city was on The Milwaukee Cable Railway Company line, more commonly known as the Hinsey Line. The first experi- 4851
—2,127—
ment took place in 1889. This experiment, however, did not prove to be a success.

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The West Side Street Railway Company, more commonly known as the Becker Line, was the first company to equip its cars for electric operation and continue this type of operation.

The first electric car of this company operated on Grand Avenue in Milwaukee in April 1890. Probably no descrip-

4852 tion of the various forms of motive power in the early days of transportation would be complete without another example.

This is an example of duplicate forms of motive power on one car where one form was not so much in the nature of a reserve, actually, as it was in the nature of a psychological experiment.

This peculiar transportation combination, viewed by a horse approaching down the street would seem to be a phe-
4853 nomenon in which a train of cars was drawn by two effortless mules mounted on a flat car, but the more observant person on the sidewalk would see that black smoke was issuing behind the mules and discover that this was a steam engine with two mules in front.

It so happened that as time went on, the effect of weather and rain and seasons began to get in their work on these two stuffed mules, which were placed on the flat car, obviously to prevent the scaring of horses and the subject was taken up very deliberately by the Common Council of the City of Mil-
4854 waukee and in the year—I think it was in the early '70's, Common Council proceedings after a very definite controversy showed a resolution which directed the company forth-

with to do one of two things, either remove the mules entirely or get busy and restuff them.

So we see that there is a lot of experimentation, financing losses and amusement in connection with the attempts to meet the whims of the traveling public in the early days.

Q. When did the first electric light company start in Milwaukee? A. Although a number of companies preceded

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the Badger Electric Illuminating Company in making application for receiving a franchise from the Milwaukee Common Council, the Badger Company was the first to start operations as an operating utility.

A private plant owned by S. S. Badger was installed in the exposition building, the forerunner of the present Milwaukee Auditorium, and operated one circuit of fifty arc lamps for demonstration and exhibition purposes.

By July 20, 1885, Mr. Badger was ready to expand his venture for on that date the Badger Electric Illuminating 4856
Company was incorporated and on the same day a franchise was requested from the Common Council.

On November 21, 1885, the franchise was obtained and the company immediately began serving commercial customers and street lamps.

The Examiner: Let us have a short recess at this point.

—2,130—

(Whereupon a short recess was taken.)

4857

By Mr. Browning:

Q. When was Wisconsin Electric Power Company incorporated? A. Wisconsin Electric Power Company as presently constituted was incorporated January 29, 1896, under the laws of the State of Wisconsin, as The Milwaukee Electric Railway & Light Company, having succeeded to the property of The Milwaukee Street Railway Company following a foreclosure sale on January 29, 1896, when the property was acquired by a purchasing committee and transferred by it to The Milwaukee Electric Railway & Light Company.

4858 *Gould W. Van Derzee—By Respondents—Direct*

Q. Now, will you tell us briefly about the predecessor companies and systems of Wisconsin Electric Power Company? A. The Milwaukee Street Railway Company was incorporated on December 22, 1890, and purchased at various times between that date and December, 1893, the properties of the following companies located principally within the limits of the City of Milwaukee.

The Milwaukee City Railroad Company, incorporated December 1, 1888, purchased by The Milwaukee Street Rail-
4859 way Company December 22, 1890, was, itself, the successor of The Milwaukee City Railway Company, incorporated March 28, 1865, by special act of the legislature and granted franchise to operate on certain streets of the east, west and south sides of the City of Milwaukee.

The Cream City Railway Company, incorporated April 22, 1890, and purchased by Milwaukee Street Railway Company, February 19, 1891, was the successor of Cream City Railroad Company, incorporated August 18, 1874, which in turn succeeded an association consisting of F. B. Van
4860 Valdenberg, and others who had obtained a fifty-year franchise in 1874 to operate on streets on the west and south sides of Milwaukee.

The deal was negotiated by Henry Villard under contract of June 20, 1890, which contract was assigned to Villard by The North American Company on August 5, 1890.

West Side Railroad Company, incorporated June 5, 1889, was successor to West Side Railway Company incorporated December 17, 1888, which in turn succeeded the West Side Street Railway Company, incorporated July 29, 1875, and

which, likewise, succeeded to an association of J. H. Tesch, John Plinkinton, et al.

The company operated on the west side of the City of Milwaukee. The entire capital stock of West Side Railroad Company amounted to $300,000.00, was purchased by North American Company from Washington Becker on September 29, 1891, and in turn sold by The North American Company to Milwaukee Street Railway Company on November 25, 1893.

The Milwaukee and Whitefish Bay Railway Company 4862
incorporated May 24, 1886, was acquired by Milwaukee Street Railway Company of New Jersey, through purchase
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of 2,196 shares of capital stock of a total capitalization of 2,400 shares, from Charles Pfister, under contract dated June 1, 1891.

The Milwaukee Electric Street Railway Company, incorporated July 10, 1893, was successor to Milwaukee Electric Railway Company, incorporated December 19, 1889, which in turn succeeded through Mr. Charles Pfister to the Milwaukee Cable Railway Cowpany, incorporated May 26, 1887, 4863
operated on certain streets in the third ward of the city, purchased by Milwaukee Street Railway Company of New Jersey, from Mr. Pfister on June 2, 1894.

The Edison Electric Illuminating Company, incorporated August 20, 1889, was established by the Edison General Electric Company of New York and purchased by The North American Company on January 31, 1890. Property transferred by The North American Company to Milwaukee Street Railway Company for stock and bonds.

The Badger Electric Illuminating Company, incorporated July 20, 1885, was originally purchased by Henry Villard

4864 from J. A. Hinsey on June 18, 1890, the contract subsequently assigned by Mr. Villard to The North American Company on July 7, 1890, sold to Milwaukee Street Railway Company by The North American Company on December 22, 1890.

The property, entire capital stock, and $30,000.00 of bonds of The Milwaukee Electric Light Company were purchased by The North American Company on October 8, 1890

4865 from Charles A. Brown of Chicago.

The company was incorporated in Illinois on June 9, 1889.

In subsequent years, the operations of The Milwaukee Electric Railway & Light Company were expanded through the acquisition by purchase or merger of the properties and businesses of various other public utility companies, the principal amount of which were the Milwaukee Light, Heat & Traction Company, North Milwaukee Light & Power Company, Wells Power Company, and the Milwaukee Northern Railway Company.

4866 The Milwaukee Light, Heat & Traction Company, incorporated December 14, 1896, was purchased by The Milwaukee Electric Railway & Light Company at a cost of $13,240,987.28. The consideration paid by The Milwaukee Electric Railway & Light Company consisted of $1,600,000.00 par value of common stock of The Milwaukee Electric Railway & Light Company, $864,150.20 cash or equivalent in notes and the assumption of the indebtedness of The Milwaukee, Light, Heat & Traction Company, amounting to $10,776,837.08.

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The amount of common stock of The Milwaukee Electric Railway & Light Company, issuable to Milwaukee Light, Heat & Traction Company as part of the purchase price, in amount of $1,600,000.00 was reduced to $1,400,000.00 by order of the Railroad Commission of Wisconsin in its order of November 28, 1922, the difference of $200,000.00 eventually being transferred to depreciation reserve.

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The Railroad Commission of Wisconsin was the predecessor of the present Public Service Commission of Wisconsin. Milwaukee Light, Heat & Traction Company had title to the traction, lighting and heating properties serving an extensive territory to the south and west of the City of Milwaukee, the principal communities served being the cities of Racine, Cudahy, South Milwaukee and West Allis and the villages of Shorewood and Whitefish Bay.

Its transportation properties extended to the cities of Racine, Kenosha, Burlington, Waukesha and Watertown and it rendered local transportation service in the City of Racine and in the suburban communities immediately surrounding the City of Milwaukee. It acquired at various times, properties and businesses of a number of smaller companies, to wit: Pabst Light, Heat & Power Company, incorporated in 1896, was acquired February 15, 1897, for $678,805.61, consisting of cash, bonds, real estate and a mortgage note.

4869

A portion of the property consisting of a power house, lighting distribution system and underground steam heating tunnels was transferred in 1899 to The Milwaukee Electric Railway & Light Company for $300,000.00.

The remaining portion consisted of Wauwatosa Railway and extending from 27th and Walnut Streets in Milwaukee

4870 *Gould W. Van Derzee—By Respondents—Direct*

to Wauwatosa and a power house and lighting system in the town of Wauwatosa.

—2,135—

The Milwaukee and Wauwatosa Motor Company, incorporated October 24, 1888, purchased December 9, 1897, consisted of a steam dummy line, operating from 36th and Wells Street in Milwaukee to Wauwatosa and from 59th and Wells Street to North Greenfield.

The Waukesha Beach Electric Railway comprised five
4871 miles of track from Waukesha to Waukesha Beach, a power plant at Waukesha and some six or seven cars.

This company was incorporated August 27, 1894, and purchased by Milwaukee Light, Heat & Traction Company in 1897.

The Milwaukee, Racine and Kenosha Electric Railway property consisted of thirteen miles of line from South Milwaukee to Racine and ten miles of line from Racine to Kenosha, together with machinery valued at $30,000.00 installed in the power house of Belle City Electric Railway in Racine.

The company was incorporated August 8, 1896, and ac-
4872 quired in 1897 for the sum of $129,308.76. The Belle City Electric Railway property consisted of 13½ miles of street railway system in the City of Racine, a power house and two car houses, all of which were acquired in 1899, through the purchase of outstanding stocks and bonds for $299,120.70.

The company was incorporated July 31, 1897, having succeeded to the property of Belle City Street Railway Company which was incorporated June 1, 1883.

—2,136—

The Badger Electric Company, an electric lighting utility doing business exclusively in Racine, owned a power

house and electric line construction. It was incorporated October 28, 1884 and acquired in 1899 for the sum of $144,586.91.

The Milwaukee and Waukesha Electric Railway Company was acquired largely for its right-of-way between West Allis and Waukesha. The company was incorporated July 31, 1895, as the Milwaukee General Railway Company and the same subsequently changed to Milwaukee and Waukesha Electric Railway Company on June 16, 1896.

It was acquired in 1899 for the sum of $133,000.00. The 4874
South Milwaukee Electric Light & Power Company was incorporated January 13, 1898, and purchased in 1899 for $15,000. Its property consisted of a power plant and lighting system in the City of South Milwaukee.

The Chicago, Waukegan and North Shore and the Chicago, Kenosha and Milwaukee Railways were acquired in 1906 by a stock purchase for the sum of $125,487.38.

The Milwaukee and Wauwatosa Electric Company, incorporated June 8, 1891, and purchased in 1914, was successor to Wauwatosa Electric Company, incorporated March 1, 1889, and The Milwaukee and Wauwatosa Rapid Transit 4875
Company, incorporated January 19, 1891.

(Discussion off the record.)

A. (Continuing) Waukesha Street Railway Company, in-

corporated May 21, 1897, Milwaukee and Muskego Lakes Electric Railway Company, incorporated October 28, 1899, The Waukesha Electric Railway Company, incorporated May 21, 1897, and acquired through an assignment of franchise on December 28, 1897, Watertown-Oconomowoc

Light, Heat & Power Company, incorporated November 17, 1903, Hevi Duty Electric Company was incorporated November 6, 1924.

On November 2, 1925, Milwaukee Light, Heat & Traction Company acquired 1,250 shares, or 50 per cent. of the common stock of this company and again on April 27, 1929, acquired 625 additional shares amounting to 25 per cent. of the common stock.

This company manufactures and sells electric heating
4877 equipment including furnaces and water heaters and was completely described by me yesterday.

Q. Mr. Van Derzee, I don't believe you indicated the date or approximate date when The Milwaukee Electric Railway & Light Company acquired the properties of Milwaukee Light, Heat & Traction Company. I don't know that you have the date. Could you give the approximate date? A. About 1919.

North Milwaukee Light & Power Company was incorporated January 27, 1906. It furnished electric service to the residents of the then city of North Milwaukee which was
4878 annexed to the City of Milwaukee in 1928.

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In 1911, The North American Company acquired 100 per cent. of the common stock of this company which was later acquired by Wisconsin Edison Company on December 31, 1912.

On December 31, 1921, The Milwaukee Electric Railway & Light Company purchased the physical property and assets of North Milwaukee Light & Power Company from Wisconsin Edison Company.

4879

Wells Power Company was incorporated June 7, 1907. This property consisted of power plant equipment located in a leased building in the City of Milwaukee and of electric and steam heating distribution system serving a limited area in downtown Milwaukee.

In 1913, The North American Company acquired all of the outstanding shares of $100.00 par value common stock of Wells Power Company, amounting to 2,000 shares. Subsequently, in 1914, Wisconsin Edison Company acquired this stock from The North American Company which was again 4880
transferred to North American Edison Company in 1923 and finally acquired by The Milwaukee Electric Railway & Light Company from North American Edison Company on August 17, 1925, together with Wells Power Company's outstanding 6 per cent. demand notes in principal amount of $225,000.00 for a total consideration of $700,000.00 of preferred stock, 7 per cent. series, issues of 1921, of The Milwaukee Electric Railway & Light Company.

In September, 1926, Wells Power Company was merged into The Milwaukee Electric Railway & Light Company.

4881

—2,139—

Milwaukee Northern Railway Company was incorporated in October, 1905, for the purpose of furnishing transportation service to the area north of the City of Milwaukee and extending to the City of Sheboygan.

The principal communities served were the cities of Sheboygan, Port Washington and Cedarburg. One local railway line was operated in Milwaukee. The capital stock of Milwaukee Northern Railway Company consisting of 10,000 shares of common stock, 6,000 shares of second preferred

4882 *Gould W. Van Derzee—By Respondents—Direct*

stock and 4,000 shares of first preferred stock was purchased by The Milwaukee Electric Railway & Light Company in 1922, and 1924.

In April, 1928, the Milwaukee Northern Railway Company was merged into The Milwaukee Electric Railway & Light Company.

The New Butler Electric Light Company was incorporated in February, 1915, and furnished electric service in the small village of New Butler, a small distance to the north
4883 and west of Milwaukee.

This property was acquired in April, 1920, for a consideration of $18,750.00.

Dousman Electric Light & Power Company furnished electric light and power service to the small village of Dousman located in the town of Ottawa in Waukesha County. The date of incorporation is not known. This property was purchased in January, 1923, from L. J. Bischel of Dousman for a cash consideration of $18,500.00.

—2,140—

Honey Creek Electric Light Company was incorporated
4884 in October, 1914, to furnish electric light and power service to the residents of the small unincorporated community of Honey Creek, the town of Spring Prairie, Walworth County. This property was acquired in August, 1923, from the Honey Creek Electric Light Company for a cash consideration of $3,500.00.

The utility properties of Commonwealth Power Company, Akley Land Company and Continental Realty Company were purchased in one transaction in April, 1917.

These properties, incorporated January 13, 1908, were known as Commonwealth Power Company.

The Milwaukee Electric Railway & Light Company and Wisconsin Edison Company entered into an agreement on January 31, 1917, with the Uihlein family to purchase the entire common stock and property of Commonwealth Power Company for a consideration of $550,000.00 in cash and $1,450,000.00 in ten-year 5 per cent. serial notes of The Milwaukee Electric Railway & Light Company.

The purchase price was borne jointly by The Milwaukee Electric Railway & Light Company and Wisconsin Edison Company, although the property was deeded to The Mil- 4886
waukee Electric Railway & Light Company.

The Akley Land Company property acquired, consisted of an electric generating station, including land, structure and

equipment.

The property of Continental Realty Company consisted of a boiler plant and generating equipment located in downtown Milwaukee and of tunnels and steam distribution mains and services.

The property of Commonwealth Power Company con-
sisted entirely of transmission and distribution property in 4887
downtown Milwaukee.

Central Heating Company of Milwaukee, incorporated May 17, 1912, and successor to Milwaukee Central Heating Company, incorporated in 1905, was owned by The North American Company, which held 1,000 shares or 100 per cent. of its common stock. On December 31, 1912, North American Company sold this entire stock to The Milwaukee Railway & Light Company and the property and assets of Central Heating Company of Milwaukee were merged with The Milwaukee Electric Railway & Light Company as of that date.

Property acquired consisted entirely of tunnels, mains, services, meters, and so forth, devoted to steam heating service.

Milwaukee Arc Light Company, incorporated November 18, 1893, was purchased by The Milwaukee Electric Railway & Light Company in 1897 at a cost of $107,783.32.

Milwaukee Power & Light Company, incorporated February 10, 1891, a successor to Milwaukee Lighting & Power Company, which was incorporated April 24, 1890.

4889 —2,142—

Plankinton Electric Light and Power Company was incorporated May 29, 1915, and the property purchased as of the same date, payments being spread over a period of twenty years.

The Milwaukee Electric Railway & Light Company purchased the physical property of Port Washington Municipal Electric Utility, consisting of a small steam generating station and electric distribution system serving the City of Port Washington in February, 1930.

4890 Q. Do you recall offhand the capacity of that Port Washington Municipal Plant? A. Just a few hundred kilowatts. That is the one that was operated by engineer Shaver, who has now become the chief engineer of the Port Washington Power Plant owned by the Electric Company.

Q. And what is the capacity of Port Washington, then? A. 80,000 kilowatts installed with 80,000 coming up.

Wisconsin General Railway was incorporated July 3, 1912. In December 1912, 40 per cent. of the outstanding common stock of this company was acquired by Wisconsin Edison Company. This stock was acquired from Wisconsin

4891

Edison Company by The Milwaukee Electric Railway & Light Company in January, 1917, which subsequently acquired the remaining 60 per cent. of the common stock in October, 1920.

The company operates, as described yesterday, as a real

—2,143—

estate holding company.

In October, 1938, The Milwaukee Electric Railway & Light Company merged into itself, the former Wisconsin Electric Power Company, assumed the name of that company and transferred to The Milwaukee Electric Railway & Transport Company, a new wholly owned subsidiary, its transportation business and properties, except for certain outlying interurban lines leased and operated by The Milwaukee Electric Railway & Transport Company.

4892

The former Wisconsin Electric Power Company was the owner of the Lakeside generating station which it leased to the company and did no other business.

Q. Have you made a computation to determine how many predecessor companies or systems are represented by the present Wisconsin Electric Power Company and on the transit side by The Milwaukee Electric Railway & Transport Company? A. Yes. The companies which you just named represent the putting together of fifty original companies and systems.

4893

Mr. Browning: Will you mark that chart for identification?

The Examiner: 44 is the number.

(The chart referred to was marked for identification as Respondents' Exhibit No. 44.)

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By Mr. Browning:

Q. Mr. Van Derzee, was this chart, Respondents' Exhibit —2,144— for identification No. 44, prepared under your supervision? A. It was.

Q. The data thereon is taken from the records of the company? A. It was.

Mr. Browning: I offer this chart in evidence as
4895 Respondents' Exhibit No. 44.

Mr. Browning: In connection with this chart, Mr.

Mr. O'Dell: No objection.

The Examiner: It is admitted into evidence under the number mentioned.

(The chart referred to was received in evidence as Respondents' Exhibit No. 44.)

Examiner, I may say that it was originally prepared simply to enable a count to be made of the predecessor companies and systems rather than with the purpose
4896 of ever offering the chart in evidence.

It shows, however, so graphically that The North American Company started corporate simplification in 1890, that I think it is a valuable exhibit.

(Discussion off the record.)

By Mr. Browning:

Q. Mr. Van Derzee, the chart bears the heading Wisconsin Electric Power Company, but the transit properties represented in these companies are now held by The Mil-

waukee Electric Railway & Transport Company? A. That

—2,145—

is a fact.

Mr. Browning: Will you please mark this chart, which consists of four sheets, bearing the title, "Wisconsin Electric Power Company (formerly The Milwaukee Electric Railway & Light Company)" as Respondents' Exhibit for identification?

The Examiner: Number 45.

4898

(The chart referred to was marked for identification as Respondents' Exhibit No. 45.)

By Mr. Browning:

Q. Was this chart prepared under your supervision, Mr. Van Derzee? A. It was.

Q. Information shown thereon was taken from the books and records of the Company? A. It was.

Mr. Browning: I offer this in evidence as Respondents' Exhibit No. 45.

(Discussion off the record.) 4899

Mr. O'Dell: No objection.

The Examiner: Very well. This exhibit, consisting of four sheets, is admitted in evidence under the number mentioned.

(The chart referred to was received in evidence as Respondents' Exhibit No. 45.)

Mr. Browning: The purpose of this exhibit, Mr. Examiner, is to show in as condensed form as possible,

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4900 the financial history of the Company. I think the exhibit more or less speaks for itself, but I would like to ask Mr. Van Derzee if he has any comments with regard to it.

The Witness: Do all copies of this exhibit have numbers designating whether they are sheets, 1, 2, 3 or 4, of this exhibit?

The Examiner: Off the record.

(Discussion off the record.)

4901 The Witness: Sheet 1 of this exhibit, which covers the outstanding securities by classes, as at December 31, 1896 to 1939, inclusive, and as at June 30, 1940, is of interest in that it shows that the total outstanding securities have increased tremendously from 1896, where there were $14,000,000.00 to $112,869,880.00 in 1940.

It also shows some stormy periods of financing, because we note that right after the period of the first World War, up to the beginning of the last

4902 decade, the number of outstanding issues increased quite rapidly, as difficulties of financing were incurred, and then we see evidences of the company getting on top of the situation and gradually reducing the number of issues down to five as of June 30, 1940, compared with a peak of twelve in 1921.

By Mr. Browning:

Q. Have you any comments on the second sheet of the ex-

—2,147—

hibit? A. The second sheet of the exhibit relates exclusively

to the bonds outstanding as of December 31, 1896, to 1939, inclusive and as at June 30, 1940.

One of the interesting figures is the issue of $4,950,000 of refunding and first mortgage bonds. These were issued in 1921 and were out only during that year and it was necessary to have a coupon rate of 7½ per cent. and to sell them at a discount.

That was one of the stormy periods referred to, when money was very expensive, and that compares with the present issue of mortgage bonds outstanding having a coupon 4904
rate of 3½ per cent. which sold at a substantial premium.

It indicates progress of the company, improvement in its affairs, as well as the condition of the money market.

Q. Have you any idea where the 3½'s are selling today? A. Approximately 108.

Q. Have you any comments on the third sheet of the exhibit? A. The third sheet of the exhibit is devoted exclusively to history corresponding to the ones previously given on sheets one and two except that it relates to notes outstanding in the period.

Probably the most important item, as indicative of what 4905
the company had to go through to finance itself in the period

following the first World War, is the column in which are shown amounts of ten-year 8 per cent. equipment trust certificates due in 1930.

This means that the company, in effect, had to put up its equipment in order to get money. Compare that with the present outstanding unsecured promissory notes due serially in 1948, amounting to $13,250,000.00 outstanding on June 30, 1940, and bearing an interest rate of 2⅝ per cent.

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Sheet No. 4 covers the outstanding capital stock for the same period previously described, shows how this has increased from 1896 in the amount of $7,000,000.00 at the time of the first large consolidation, to $44,619,880.00 at the present time.

This sheet covers both common stock and preferred stock. The most interesting item is that of the 8 per cent. series. This was 8 per cent. preferred stock sold at par, as it must be, not less than par in the State of Wisconsin, and that
4907 compares with the rate of 4¾ per cent. on the series now outstanding.

(Discussion off the record.)

By Mr. Browning:

Q. Sheets 1 and 4 show a reduction in the par value of the common stock from $21,000,000.00 on December 31, 1939 to $13,959,280.00 on June 30, 1940. Was this accompanied by the creation of a surplus? A. It was. The reduction occurred in connection with the refinancing of the outstanding 6 per cent. preferred stock issue of 1921 of the company at
4908 —2,149—
which time the par value of the common stock was reduced from $20.00 to $10.00 and a capital surplus created incident thereto.

At the same time, The North American Company exchanged 20,000 shares of 6 per cent. preferred stock, issue of 1921, which it owned, for 120,000 shares of the new common stock which also had the effect of contributing to the capital surplus.

Q. These sheets, embraced within Respondents' Exhibit 45, merely give the par value of the common stock and do

4909

not give any figures with regard to surplus? A. That is true.

Mr. Browning: I have finished with this exhibit, Mr. Examiner, and it is now almost 12:30. I think this would be a good time to recess.

The Examiner: Off the record.

(Discussion off the record.)

Mr. Browning: What is the last?

4910

(Whereupon, the last above recorded was read by the reporter.)

Mr. Browning: I move an adjournment until Monday morning at 10:00 a. m.

Mr. O'Dell: As far as Commission counsel is concerned, we would prefer to continue on this afternoon, but we will not object to Mr. Browning's motion for a continuance at this time.

—2,150—

The Examiner: I think, Mr. Browning, as he has been here all week, should be allowed to return to his 4911
office and family for the week-end and we will recess at this point until Monday morning at 10:00 o'clock.

(Whereupon, at 12:30 o'clock a. m., the hearing was adjourned until 10:00 o'clock a. m., Monday, September 30, 1940.)

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4912

BEFORE THE

Securities and Exchange Commission

Docket No. 59-10

IN THE MATTER

of

THE NORTH AMERICAN COMPANY, *et al.*

4913

Hearing Room 1101,
Securities and Exchange Commission Building,
Washington, D. C.,
Monday, September 30, 1940.

Met, pursuant to adjournment, at 10:00 o'clock a. m.

4914 Before: W. W. SWIFT, *Trial Examiner.*

Appearances:

S. PEARCE BROWNING, JR., and CHARLES S. HAMILTON, JR., of Sullivan & Cromwell, 48 Wall Street, New York City, Attorneys for the Respondents.

RALPH C. BINFORD, HERMAN O'DELL, and MISS E. H. CALKINS, Attorneys on behalf of the Securities and Exchange Commission.

4915

PROCEEDINGS

The Examiner: The hearing will come to order.

Mr. Hamilton: Mr. Examiner, I suggest at this time that we bring up to date corrections on the record.

In order to make the corrections without disagreement as to form, I suggest that the stenographer be given a typewritten list of corrections which she can transcribe into the record and that in the original copy of the transcript, which is part of the docket in this case, the corrections be recorded with a cross-reference to the page in the transcript in which the particular change appears as part of the memorandum of corrections.

4916

Mr. Binford: As I understand it, you propose that in the original docket the corrections be made in pencil but that the errata sheets showing these corrections which will be controlling, be separately incorporated in the transcript.

Mr. Hamilton: That is right.

Mr. Binford: I have no objection to that, Mr. Examiner.

The Examiner: Very well. I think that is a very good arrangement. The stipulation that you gentlemen have just stated will be followed.

4917

Now, I imagine it would take the rest of the morning for you to work on these corrections, will it not?

Mr. Hamilton: Yes, I believe it will.

The Examiner: Very well. We will take a recess at this point until two o'clock this afternoon and the corrections

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that are agreed upon will be incorporated in the minutes of this morning's session.

(Whereupon, the hearing was recessed at 10:15 o'clock a. m., to reconvene at 2:00 p. m. the same day.)

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4918 *Colloquy*

AFTERNOON SESSION

(Whereupon, at 2:00 o'clock p. m., the hearing reconvened.)

The Examiner: The hearing will be resumed.

Mr. Browning: The Examiner will recall that in the course of the testimony at the last hearing, it was shown that the present Wisconsin Electric Power Company and The Milwaukee Electric Railway & 4919 Transport Company, together, represent the putting together of fifty original companies or systems and that I pointed out at that time that the process of simplification had been developed by The North American Company beginning in 1890.

In that connection and because I think it is of real interest, I would like to refer to the opinion of Judge Seaman in The Milwaukee Electric Railway & Light Company versus the City of Milwaukee, 87 Federal 577.

4920 Mr. Binford: Mr. Examiner, I object to any argument on the part of counsel at this time. I can see that no purpose has been stated for making this statement. Counsel has proceeded with this statement and made the citation of the case and I object to any further statement by him unless the purpose of such statement is first stated.

Mr. Browning: My purpose was not argument, Mr. Examiner, but merely to refer to this decision in which Judge Seaman discussed the putting together of these

companies at this early period, and the resulting advantage to the public.

—2,169—

Mr. Binford: I move that the last statement of counsel as to the contents of Judge Seaman's opinion be stricken from the record as improper at this time.

If the case in question is deemed a part of the factual material to be considered in this case, the opinion, itself, might be offered in evidence, at which time it could be examined and such objections as 4922
might be proper, if any, be made to it.

Mr. Browning: I take it that it is unnecessary to offer opinions of Federal Courts in evidence in this proceeding.

Mr. Binford: Mr. Examiner, I take it it is also unnecessary to make statements which are self-serving as to what those opinions hold in the course of taking factual testimony before a trial examiner.

The Examiner: Well, is there any doubt or any controversy between you gentlemen that the opinions need not be introduced in evidence of Federal Courts. 4923
Can't they be judicially noticed?

Mr. Binford: I don't think the question of whether any such controversy exists between us is in issue at this moment and I object to the remarks along the lines that have just been made by counsel for the Respondents and I move that they be stricken from the record as highly prejudicial. If there is a proper way, that isn't it.

Mr. Browning: Mr. Examiner, there is no reason for any controversy. All I wanted to do was to get

—2,170—

4924 into the record for convenient reference, this particular description.

The Examiner: Well, I will overrule the motion to strike.

Mr. Binford: Exception, please.

The Examiner: All right.

Mr. Browning: Off the record.

(Discussion off the record.)

4925 Whereupon GOULD W. VAN DERZEE resumed the stand and testified further as follows:

Direct Examination by Mr. Browning (Continued):

Q. Turning now to Wisconsin Gas & Electric Company, will you outline briefly for us the history of that company? A. Wisconsin Gas & Electric Company was incorporated in the State of Wisconsin on June 5, 1866, as The Racine Gas Light Company.

This company was the successor to the property and business of Racine Gas, Light & Coke Company, which was in-
4926 corporated February 24, 1855.

An earlier company, incorporated in Wisconsin, April 2, 1853, and known as Racine Gas, Light Company, is not believed to have either owned or operated any facilities for the production or distribution of gas.

Gas utility service was first supplied by Racine Gas, Light

& Coke Company in the year 1855, in the City of Racine, Wisconsin.

In 1877, Racine Gas Light Company acquired through purchase, the operating property of Racine Peoples Gas

Company, which had been incorporated in the year 1870. Prior to 1912, the property of Racine Gas Light Company was limited to a gas manufacturing plant and a distribution system serving in and about the City of Racine and Racine County, Wisconsin, and a gas transmission line connecting the gas plant in the City of Racine with the gas distribution system in the Kenosha County, Wisconsin.

September 23, 1912, the name of Racine Gas Light Company was changed to the present name of the corporation, Wisconsin Gas & Electric Company, pursuant to authority 4928
granted by the Railroad Commission of Wisconsin; Wisconsin Gas & Electric Company, on October 4, 1912, acquired the assets of the Kenosha Gas & Electric Company on October 7, 1912, acquired the assets of Kenosha Electric Railway Company.

The Kenosha Gas & Electric Company was incorporated in Wisconsin on May 26, 1900, and had as predecessor companies, Kenosha Light & Power Company, incorporated December 16, 1895; the Kenosha Electric Light Company, incorporated June 22, 1893; Electric Illuminating Company, 4929
incorporated in Illinois July 29, 1899; The Kenosha Gas, Electric Light & Fuel Company, incorporated October 22, 1888; Citizen Gas, Light & Coke Company of Kenosha, in-

corporated May 11, 1877; and Kenosha Gas, Light & Coke Company, incorporated March 28, 1856.

At the time of its acquisition by Wisconsin Gas & Electric Company, the Kenosha Gas & Electric Company operated electric and gas utilities serving in and about the City of Kenosha, Kenosha County, Wisconsin.

4930 Kenosha Electric Railway Company was incorporated April 30, 1902. At the time of its acquisition by Wisconsin Gas & Electric Company, it operated an electric street railway system in the City of Kenosha and rendered electric service to a comparatively few customers in the city.

On July 14, 1915, Wisconsin Gas & Electric Company acquired a transmission line located in Jefferson County, Wisconsin, and connecting the cities of Watertown, Jefferson, Lake Mills and Fort Atkinson, and the village of John-
4931 son Creek.

On July 26, 1915, Wisconsin Gas & Electric Company acquired the property of both Watertown Gas & Electric Company, and the Burlington Electric Light & Power Company. The Watertown Gas & Electric Company was incorporated April 27, 1905, and had as predecessor companies, Watertown Gas Company, incorporated May 22, 1862; Watertown Electric Company, incorporated in August, 1902; Watertown Electric Light Company, incorporated June 14, 1889; and Watertown City Gas Light Company, incorporated March 24, 1855.

4932 At the time of acquisition by Wisconsin Gas & Electric

Company, Watertown Gas & Electric Company rendered both electric and gas utility service in and about the City of Watertown located in Jefferson and Dodge Counties, Wisconsin.

Burlington Electric Light & Power Company was incorporated March 23, 1903. At the time of its acquisition by Wisconsin Gas & Electric Company, it rendered utility service in the city and town of Burlington, Racine County, Wisconsin.

On February 9, 1916, Wisconsin Gas & Electric Company acquired the property of the Menomonee Falls Electric Company. This company was incorporated August 1, 1907, and operated an electric distribution system in the vicinity of the village of Menomonee Falls, Waukesha County, Wisconsin.

On August 9, 1916, Wisconsin Gas & Electric Company acquired a small distribution system in the unincorporated village of Clyman, in the Town of Clyman, Dodge County, Wisconsin. 4934

On October 18, 1916, Wisconsin Gas & Electric Company acquired by purchase a small electric distribution system operated in the unincorporated community of New Lebanon, the town of New Lebanon, Dodge County, Wisconsin.

On October 25, 1916, Wisconsin Gas & Electric Company acquired by purchase the property of Campbellsport Electric Light & Power Company. This company was incorporated June 27, 1908, and operated a small electric generating plant and a distribution system which served in and about the village of Campbellsport, Fond du Lac County, Wisconsin. 4935

On January 13, 1917, Wisconsin Gas & Electric Company acquired by purchase the electric distribution system of the Jackson Electric Light & Power Company located in the village of Jackson, Washington County, Wisconsin.

The Jackson Electric Light & Power Company was incorporated September 18, 1916, and continued the electric business of the Froelich Mercantile Company, which is believed to have first rendered electric service in 1914 in the village of Jackson.

4936 On August 30 and 31, 1917, Wisconsin Gas & Electric Company acquired by purchase a number of electric systems, including Theresa Electric Light & Power Company; Lomira Electric Light & Power Company; Resseville Heat, Light & Power Company; Iron Ridge Electric Light & Power Company; an electric system in the village of Ashippun, Dodge County; Marshall Electric Light & Power Company; Thiensville Electric Light & Power Company; Eden Electric Light Company; an electric system in the village of South
4937 Germantown, Washington County; an electric system in the city of Bristol, Kenosha County; and an electric system in the village of Union Grove, Racine County.

Theresa Electric Light & Power Company was incorporated May 15, 1912, and began rendering electric service in September of the same year.

At the time of its acquisition by Wisconsin Gas & Electric Company, it served in the village of Theresa, and operated a transmission line between the village of Theresa and the City of Mayville, Dodge County.

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4938 In addition to the acquisition of Theresa Electric Light & Power Company, there was also acquired the electric system of Allenton Electric Company, located in the unincorporated community of Allentown, the town of Addison, Washington County, Wisconsin, Lomira Electric Light & Power Company, was incorporated March 6, 1911, and first rendered service in October of the same year. Its property included an electric system serving in and about the village of Lomira, Dodge County, Wisconsin.

4939

Reeseville Heat, Light & Power Company was incorporated November 12, 1915, first rendering electric service in March, 1916, in and about the village of Reeseville.

Marshall Electric Light & Power Company was incorporated December 23, 1915, and first rendered electric service in the village of Marshall in November, 1916.

Thiensville Electric Light & Power Company was incorporated June 11, 1912, and served in and about the village of Thiensville, Ozaukee County, Wisconsin.

4940

Eden Electric Light Company was incorporated February 20, 1913, and served in the village of Eden, Fond du Lac County, Wisconsin.

Iron Ridge Electric Light & Power Company was incorporated August 23, 1913, and at the time of its acquisition was rendering electric service in the village of Iron Ridge, and in the town of Hubbard, Dodge County, Wisconsin.

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On June 23, 1920, Wisconsin Gas & Electric Company acquired by purchase an electric system of the Grafton Light, Heat & Power Company. This company was incorporated October 14, 1910 and furnished electric service in and about the village of Grafton, Wisconsin.

4941

November 22, 1921, Wisconsin Gas & Electric Company acquired a small electric system of the Koshkonong Light & Power Company which served the towns of Koshkonong and Summer both located in Jefferson County, Wisconsin. Koshkonong Light & Power Company was incorporated November 19, 1919.

On September 20, 1922, Wisconsin Gas & Electric Company acquired by purchase the electric distribution system,

4942 Bark River Electric Light & Power Company, located in both the village and town of Sullivan, and in the unincorporated village of Rome, all in Jefferson County, Wisconsin.

On December 23, 1922, Wisconsin Gas & Electric Company acquired a small distribution line operated by Lowell Light & Power Company. This company was incorporated November 1, 1915, and served in both the village and town of Lowell, Dodge County, Wisconsin.

4943 On June 2, 1923, Wisconsin Gas & Electric Company acquired the property of Waukesha Gas & Electric Company. Waukesha Gas & Electric Company was incorporated May 2, 1903, as a successor to both the Waukesha American Gas Company, which was incorporated April 21, 1886, and Waukesha Electric Light Company, which was incorporated June

7, 1886.

At the time of its acquisition by Wisconsin Gas & Electric Company, Waukesha Gas & Electric Company rendered electric and gas service in the city and town of Waukesha, Waukesha County, Wisconsin.

4944 On June 30, 1924, Wisconsin Gas & Electric Company acquired the distribution system of Whitewater Electric Light Company, which was located in the city and town of Whitewater, and the town of Cold Springs, Walworth County. This company was incorporated December 14, 1886, and is believed to have first rendered electric service in 1887.

On April 2, 1926, Wisconsin Gas & Electric Company acquired a small electric distribution system operated by Woodland Light & Power Company, and located in the unincorporated village of Woodland, and in the towns of Hub-

bard, Herman, and Rubicon, all in Dodge County, Wisconsin.

Woodland Light & Power Company was incorporated May 2, 1916, and first rendered electric service in October, 1916.

On July 24, 1926, Wisconsin Gas & Electric Company acquired the Ornamental Street Lighting System in the city of Waukesha, Waukesha County, Wisconsin.

On September 20, 1926, part of the electric system of the Cary Electric Light & Power Company, located in the unincorporated villages of Salem, Wilmot, and Silver Lake, town 4946
of Salem, and in the town of Randall, all in Kenosha County, Wisconsin, was acquired by Wisconsin Gas & Electric Com-

—2,178—

pany. Cary Electric Light & Milling Company was incorporated February 16, 1926, but its electric business is known to have been carried on some time prior to this date.

On December 1, 1926, the Wisconsin Gas & Electric Company acquired the gas and electric utility systems in the city of Fort Atkinson. The gas and electric utility systems acquired were operated by the Fort Atkinson Water, Light & Gas Commission, and served in both the city of Fort Atkin- 4947
son and part of the time Koshkonong, Jefferson County. The electric system is believed to have been acquired by the city of Fort Atkinson in 1901 from the Fort Atkinson Electric Light & Power Company which was incorporated July 22, 1890.

The gas utility was acquired in 1920 from the Fort Atkinson Gas Company which had been incorporated January 23, 1909.

On December 30, 1927, Wisconsin Gas & Electric Company acquired by purchase the electric utility properties of

the Helenville Light & Power Company, and the Lafayette Light & Power Company.

The Helenville Light & Power Company was incorporated June 6, 1918, and served in the Village of Helenville, Jefferson County.

Lafayette Light & Power Company was incorporated November 24, 1920, and operated a small electric utility system serving the town of Lafayette, Walworth County.

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4949 On January 3, 1928, having first acquired the capital stock of that company, Wisconsin Gas & Electric Company merged into itself the Badger Public Service Company. Badger Public Service Company was incorporated April 5, 1915, as Elkhart Lake Light & Power Company, which company was successor to Milwaukee and Fox River Valley Railroad Company which was incorporated November 12, 1906.

Badger Public Service Company had acquired, prior to the merger, the electric utility properties of the Cleveland Light & Power Company, which was incorporated February 17, 1913; Oostburg Light, Heat & Power Company, which was
4950 incorporated March 4, 1916; The Malone Light & Power Company, which was incorporated May 27, 1919, and the Kewaskun. Electric Light Company, which was incorporated January 17, 1920.

At the date of its merger with Wisconsin Gas & Electric Company, Badger Public Service Company rendered electric service generally in the counties of Sheboygan, Ozaukee, Fond du Lac, and Washington.

In March, 1928, Wisconsin Gas & Electric Company acquired by purchase a small electric distribution system of

Newville Electric Company. This company was incorporated on January 4, 1926, and was operated as an electric distribution system in the town of Lake Mills, Jefferson County.

On June 6, 1928, Wisconsin Gas & Electric Company acquired the electric distribution system of the Cascade Electric Service Company, serving the village of Cascade

—2,180—

and the town of Lyndon, Sheboygan County.

The Cascade Electric Company was incorporated May 8, 1916. In June, 1929, Wisconsin Gas & Electric Company 4952
acquired the electric distribution system of the Hartford-Rubicon Electric Company, located in the town of Rubicon, Dodge County, and the town of Hartford, and also an electric distribution system in the village of Neosho, Dodge County, Wisconsin.

The Hartford-Rubicon Electric Company was incorporated May 5, 1920.

On January 29, 1932, Wisconsin Gas & Electric Company acquired the electric and heating utility property of Wisconsin Public Utility Company. Wisconsin Public Utility Company was incorporated on July 16, 1925. 4953

Following its incorporation, this company acquired the property of West Bend Heating & Lighting Company, which company was incorporated August 16, 1907. At the time of its acquisition by Wisconsin Gas & Electric Company, Wisconsin Public Utility Company operated a steam heating utility in the city of West Bend, Washington County, Wisconsin, and an electric utility system serving in the city of West Bend, and any number of communities in rural areas in Washington, Sheboygan, Ozaukee and Fond du Lac Counties.

4954 On November 4, 1936, Wisconsin Gas & Electric Company acquired the electric distribution system of Milford Electric Company, located in the town of Milford, Jefferson

—2,181—

County, Wisconsin.

Milford Electric Company was incorporated April 9, 1920, although the electric system operated by it is believed to have been in operation sometime prior to that date.

4955 Q. What is the total of original companies or systems which are today represented by Wisconsin Gas & Electric Company, that is of which it is the successor?

Mr. Binford: Objected to until the question is clarified so as to ask in effect what are the companies, the properties of which have been assimilated or acquired, or in lieu thereof, what are the companies, the corporate structure of which, or the securities of which have been taken over or otherwise acquired by the subject company.

4956 As the question is framed, the answer would necessarily be ambiguous. The question is ambiguous.

Mr. Browning: Mr. Examiner, I am really trying to ask a very simple question. The witness has given a description in some detail of the original companies or systems of which Wisconsin Gas & Electric Company is successor. I was merely asking if he had made a total so that he could give us a figure. The reason that I referred to original companies or systems is that in a number of cases there was an electric property which was not incorporated and I think the witness understands that I am talking about original organizations,

incorporated or unincorporated, which were in the

—2,182—

utility business.

Mr. Binford: The word "successors" is a word of very indefinite meaning. I still insist upon my original objection.

The Examiner: Let's read the question that was objected to.

(Whereupon, the pending question was read by the reporter.) 4958

(Discussion off the record.)

Mr. Browning: Will you please mark this chart entitled "Wisconsin Gas & Electric Company" as Respondents' Exhibit No. 46 for identification?

(The chart referred to was marked for identification as Respondents' Exhibit No. 46.)

By Mr. Browning:

Q. Was this chart, Respondents' Exhibit 46 for identification, made up under your direction, Mr. Van Derzee? A. It was. 4959

Q. And does it correctly set forth the facts shown therein, taken from the books and records of the company? A. It does.

Mr. Browning: I offer this exhibit in evidence as Respondents' Exhibit 46.

Mr. Binford: I would like to ask a question or two before deciding whether I have any objection to this or not.

4960 *Colloquy*

Now, this chart, Mr. Van Derzee, consists of three parallel columns, Wisconsin Gas & Electric Company being the only company set forth in the first column.

—2,183—

A number of other companies' names, together with certain dates, are set forth in the second column, and still a third group of companies, together with dates, being set forth in the third column.

There is no indication on the face of the chart what
4961 this columnar arrangement purports to reflect. Will you please state what it does purport to reflect, if you know?

The Witness: The best way would be to take an example of the West Bend Heating & Lighting Company as shown in what you call the third column, which was incorporated August 16, 1907, and which is connected with a line in the second column described as Wisconsin Public Utility Company, incorporated July 16, 1925.

That company's line ends in a vertical line at the
4962 left of column 2, to which is connected a single line leading toward Wisconsin Gas & Electric Company.

I will now go back to the exact description which I gave you concerning the West Bend Heating & Lighting Company.

Mr. Binford: If I may interrupt for a moment, possibly we can shorten this. Do the companies named in the third column consist of companies, the property of which was in some manner acquired by the respective companies in the second column to which they are connected by lines?

The Witness: Yes.

—2,184—

Mr. Binford: And in turn, do all companies named in the second column represent companies, the properties of which were acquired by Wisconsin Gas & Electric Company?

The Witness: Yes, if you include in your definition of properties, the ultimate acquisition of the property following an intermediate acquisition of the stock.

4964

Mr. Binford: But the intermediate acquisition of the stock is not necessarily to be inferred in each case, is it?

The Witness: No.

Mr. Binford: So that this does not purport to reflect the manner of the acquisition of the actual physical properties in any particular case?

The Witness: That is correct. That is covered by my description of each corporation.

Mr. Binford: No objection.

The Examiner: The chart is admitted in evidence as Respondents' Exhibit 46.

4965

(The chart referred to was received in evidence as Respondents' Exhibit No. 46.)

By Mr. Browning:

Q. Now, Mr. Van Derzee, will you tell us whether you counted the properties which are represented in this chart, and which were so acquired by Wisconsin Gas & Electric Company? A. Yes.

4966 *Gould W. Van Derzee—By Respondents—Direct*

Q. Will you give us the total? A. The physical prop-

—2,185—

erties now in the system of Wisconsin Gas & Electric Company, were at one time, except to the extent that possibly some of the property has been retired, owned by sixty different companies, individuals or municipalities.

Q. What was the effect of these acquisitions?

Mr. Binford: Objected to as too general, calling for the opinion of the witness on other than the technical subject upon which he has been qualified.

4967

Mr. Browning: I submit, if the Examiner please, that the witness' qualifications entitled him to answer the question.

Mr. Binford: As far as the record shows and as far as the question goes, it might relate to what is the effect upon public welfare, what is the effect upon politics, what is the effect upon the ultimate concentration of stock ownership or any other subject. What kind of effect is what should be specified.

4968

Mr. Browning: I can make the question more specific and inquire what was the effect upon service and rates.

The Witness: My opinion as to the effect of the acquisition of these properties on the service and rates of the several companies and systems is that the rates were materially reduced and that the service was improved.

Mr. Schmidtman has previously testified in detail with respect to the rates. I know from my own personal experience that it was necessary for us to re-

build parts of the systems of some of these small com-

—2,186—

panies to replace the poles, put up larger wires, and I say the service was also improved.

Mr. Browning: Will you please mark for identification, as Respondents' Exhibit No. 47, this chart which consists of four sheets, the first sheet being entitled "Wisconsin Gas & Electric Company, Securities Outstanding by Classes at December 31, 1902-1939, inclusive, and as at June 30, 1940." 4970

(The chart referred to was marked for identification as Respondents' Exhibit No. 47.)

By Mr. Browning:

Q. Mr. Van Derzee, was this chart, which is Respondents' Exhibit 47 for identification, prepared under your direction and taken from the books and records of the company? A. It was.

Q. And the facts therein stated are correctly set forth? A. Yes. 4971

Mr. Browning: I offer this chart in evidence as Respondents' Exhibit 47.

Mr. Binford: No objection.

The Examiner: The chart of four sheets is so admitted.

(The chart referred to was received in evidence as Respondents' Exhibit No. 47.)

4972 *Gould W. Van Derzee—By Respondents—Direct*

By Mr. Browning:

Q. This chart sets forth a summary of the financial history of Wisconsin Gas & Electric Company? A. Insofar as

—2,187—

it goes, yes.

Q. I think the material on the chart speaks for itself, but will you point out any matters which you think should be pointed out? A. I will refer to the four pages of this exhibit, No. 47, as 1, 2, 3 and 4. Page 1 is a statement of securities
4973 outstanding by classes as at December 31, 1902, up to 1939, inclusive, and as at June 30, 1940. It is interesting to note that as of December 31, 1902, the total outstanding securities were of two issues, aggregating $1,200,009.00 par value. At December 31, 1939, they had increased to $21,611,500.00.

During that period, the number of issues increased to a maximum of ten about the year 1924, and the number of issues has dropped until at the present time there are five outstanding, indicating a substantial simplification of our financial structure in that period.

On sheet number 2 is shown a record of the mortgage
4974 bonds outstanding within the same period indicated on number 1. Here are listed the names, interest rate and due dates, of the several mortgages including underlying mortgages on the property of the company.

In 1902, the total outstanding amount of securities was $700,000.00. In 1939, the amount had increased to $10,769,000. The highest coupon rate required at any time in order to get money, was 6 per cent.

—2,188—

There are also some 5 per cent. issues and there is still outstanding a non-callable issue of Waukesha Gas & Electric

Company underlying 5 per cent. bonds, but the important observation that one can make by glancing at this sheet is that the company was last able to finance its requirements by the sale of bonds at a rate of 3½ per cent., a material reduction from the high of 6 per cent.

Turning to page 3, we find a record of notes outstanding within the same period previously described. The first notes were issued in 1918 in the amount of $300,000.00 and they were 6½ per cent. of five-year secured gold notes.

At the present time, there are outstanding $1,200,000.00 4976
of 2¾ per cent. unsecured promissory notes of the company, due serially to 1946.

In between the first note issue and the last note issue the need for money required financing at a time when the credit of the company could do no better than to sell 7 per cent. notes on a ten-year basis.

On page 4 is a statement of the capital stock of the company by years for the same period previously discussed. In 1902 the capital stock at the end of the year was $500,000.00. At the present time it is $9,342,500.00.

The highest rate of dividends in any preferred stock issue 4977
of the company was 7 per cent. There were two issues of that type. On was non-cumulative participating and the other was cumulative non-participating.

—2,189—

This participating reference, I recollect, is to the opportunity that an owner of the 7 per cent. stock had to participate in the earnings on the common stock after a certain dividend had been paid on the common stock.

Outstanding at the present time is the relatively new series of 4½ per cent. cumulative and non-participating stock.

Q. Will you describe for us the corporate history of Wisconsin Michigan Power Company? A. Wisconsin Michigan Power Company, as presently constituted, results from the consolidation in the year 1927 of a group of companies furnishing electric, gas and electric railway, utility services in about the city of Appleton, Neenah, and the city of Iron Mountain and the neighboring communities in upper Michigan.

Subsequent to the consolidation in 1927, a number of
4979 minor acquisitions of electric property occurred. On May 17, 1927, pursuant to an application previously filed, the Railroad Commission of Wisconsin, predecessor to the present Public Service Commission of Wisconsin, issued an order approving the consolidation by merger of the following Wisconsin companies with Peninsular Power Company.

The latter company's name was changed to Wisconsin Michigan Power Company in May, 1927, and these companies mentioned were Star Electric Light & Power Company, Badger Utility Company, The Weyauwega Electric Light

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4980 Company, Aurora Electric Light & Power Company, Niagara Light & Power Company, Wisconsin Light, Heat & Traction Company.

In addition to the merging of the above companies, approval was given for the purchase of the 132,000 volt Appleton substation and the Pemene Dam site, and for the purchase of all the assets subject to the liabilities of the Utility Realty Company, a Wisconsin company, and of each of the following companies operating in the State of Michigan.

Alpha Lighting Company, Iron Mountain Electric Light, Heat & Power Company, Amasa Lighting Company, Powers-

Spalding Light Company, Dickinson County Public Service Company, Loretto Light & Power Company.

Peninsular Power Company was incorporated in the State of Wisconsin on May 9, 1911. This company originally furnished electric service in and about the city of Iron Mountain, which is in Michigan, and certain iron mines in the vicinity of Iron River, Michigan.

This is a very important iron center in the upper Peninsula.

On October 20, 1926, Peninsular Power Company acquired by purchase certain of the electric utility properties of Wisconsin Northern Light, Power & Heat Company, Incorporated, located about the unincorporated village of Tustin, Winnebago County, Michigan. 4982

On May 17, 1927, the corporate name of Peninsular Power Company was changed to Wisconsin Michigan Power

Company.

Star Electric Light & Power Company, which is one of the companies previously named, was incorporated in Wisconsin on January 15, 1923. The company rendered electric service in and about the vicinity of the city of New London, Outagamie County. 4983

On May 26, 1927, it was merged into Wisconsin Michigan Power Company.

Badger Utility Company was incorporated on September 11, 1920, as the successor to the Pulaski Woodenware Light & Power Company. The latter company was incorporated in Wisconsin as Pulaski Light & Power Company on September 22, 1915, and rendered electric service generally in

and about the village of Pulaski, Brown County, Wisconsin.

On August 1, 1924, Badger Utility Company acquired from Northeastern Power Company certain electric utility property which had formerly been all or part of the property of the Gillett Public Service Company which operated in and about the village of Gillett, Oconto County, Wisconsin.

Gillett Public Service Company was incorporated in Wisconsin on March 6, 1917.

On May 26, 1927, the Badger Utility Company was merged
4985 into Wisconsin Michigan Power Company.

The Weyauwega Electric Light Company was incorporated in Wisconsin June 10, 1903.

—2,192—

Q. Isn't that July? A. Correction. That is July. It operated a hydro-electric generating and electric distribution utility serving in the village of Weyauwega, Waupaca County, Wisconsin.

On May 26, 1927, this company was merged into Wisconsin Michigan Power Company.

Aurora Electric Light & Power Company was incorpo-
4986 rated in Wisconsin September 22, 1922. It operated an electric distribution system serving in Aurora Township, Florence County, Wisconsin. On May 26, 1927, this company was merged into Wisconsin Michigan Power Company.

Niagara Light & Power Company was incorporated in Wisconsin August 8, 1918. This company served in and about the village of Niagara, in Marinette County, Wisconsin, and also in Dickinson County, Michigan.

On May 26, 1927, the company was merged into Wisconsin Michigan Power Company.

4987

Alpha Lighting Company was incorporated in Michigan in 1915. It rendered electric utility service in and about the village of Alpha, Iron County, Michigan. On June 4, 1927, the property of this company was acquired through purchase by Wisconsin Michigan Power Company.

Iron Mountain Electric Light & Power Company was incorporated in Michigan, April 16, 1891. At the date of acquisition of this property, on June 4, 1927, by Wisconsin Michigan Power Company, the property of the company con-

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4988

sisted of an electric distribution system serving in and about the city of Iron Mountain, Michigan.

The Amasa Lighting Company was incorporated in Michigan on January 10, 1922. This company operated an electric distribution system in and about the village of Amasa, Iron County, Michigan. On June 4, 1927, this property was acquired through purchase by Wisconsin Michigan Power Company.

The Examiner: Let us take a recess.

(Whereupon a short recess was taken.)

4989

A. (Continued) Powers-Spalding Light Company was incorporated in Michigan on April 17, 1926, as successor to Power-Spalding Light & Power Company which was incorporated June 3, 1921. The company operated an electric distribution system in and about the village of Powers, Menominee County, Michigan. On June 4, 1927, this property was acquired through purchase by Wisconsin Michigan Power Company.

4990

Dickinson County Public Service Company was incorporated in Michigan on May 29, 1925, and rendered electric service generally in Dickinson County, Michigan. On June 4, 1927, this property was acquired through purchase by Wisconsin Michigan Power Company.

Loretto Light & Power Company was incorporated in Michigan on March 22, 1919. This company served in and about the village of Loretto, Dickinson County, Michigan, and was acquired through purchase by Wisconsin Michigan

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—2,194—

Power Company on June 4, 1937.

Wisconsin Traction, Light, Heat & Power Company was incorporated in Wisconsin, March 24, 1900. Upon or shortly after its incorporation, this company succeeded to the business of the Fox River Valley Electric Railway Company and the Appleton Electric Light & Power Company.

In September, 1904, Wisconsin Traction, Light, Heat & Power Company acquired the property of Fox River Valley Gas & Electric Company.

4992

In November, 1920, Wisconsin Traction, Light, Heat & Power Company also acquired the property of Seymour Electric Company, operating in and about the village of Seymour, Outagamie County, Wisconsin.

Of the above acquisitions and successions of the Wisconsin Light, Heat & Power Company, the Appleton Electric Power Company, which was incorporated in Wisconsin January 29, 1896, had in turn succeeded the Appleton-Edison Electric Company, incorporated July 28, 1891.

The latter company had succeeded the Appleton-Edison Light Company, Limited, which was incorporated on May

24, 1883, and Appleton Electric Street Railway Company, incorporated January 19, 1886.

The Appleton Electric Power Company had also acquired the Citizens Electric Power Company of Wisconsin, which had been incorporated in Wisconsin July 26, 1894.

Fox River Valley Electric Railway Company was incorporated in Wisconsin July 22, 1897, and was successor to

—2,195—

Neenah and Menasha Electric Railway Company, incorporated in Wisconsin May 10, 1892. 4994

Fox River Valley Gas & Electric Company was incorporated in Wisconsin March 31, 1901. This company had succeeded Appleton Gas, Light & Fuel Company, incorporated in Wisconsin October 27, 1894, and Neenah-Menasha Gas & Electric Company which had been incorporated in Wisconsin April 17, 1879, as Neenah & Menasha Gas Company.

Up to April, 1923, The North American Company had acquired 95 per cent. of the common stock of Wisconsin Traction, Light, Heat & Power Company issued and outstanding. 4995

At the time of the merging into Wisconsin Michigan Power Company, Wisconsin Traction, Light, Heat & Power Company operated, in addition to transportation and gas utilities, an electric hydro and steam generating plant located in the city of Appleton, Outagamie County, and an electric transmission and distribution system serving in and about the city of Appleton and the cities of Neenah and Menasha, Winnebago County, Wisconsin. On November 1, 1927, Wisconsin Michigan Power Company acquired by purchase the distribution system of Nadeau Brothers Elec-

4996 tric Utility serving in the unincorporated village of Nadeau, Menominee County, Wisconsin.

On November 30, 1927, Wisconsin Michigan Power Company acquired by purchase the electric distribution system of Wisconsin Land & Lumber Company serving in the Town-

—2,196—

ship of Myer, Menominee County, Michigan.

On February 29, 1928, Wisconsin Michigan Power Company acquired by purchase, certain electric distribution
4997 property of the Lake States Public Service Company, serving generally the counties of Baraga, Houghton, Ontonagon, Alger and Marquette in upper Michigan.

On March 9, 1928, the Wisconsin Michigan Power Company acquired by purchase the electric distribution system of Brunswick Lumber Company, serving in the town of McMillan, Ontonagon County, Michigan.

On May 11, 1928, Wisconsin Michigan Power Company acquired by purchase the electric utility system of Delta Public Service Company serving the towns of Escanaba, Baldwin, and Brampton, in Delta County, Michigan.

4998 On May 18, 1928, Wisconsin Michigan Power Company acquired by purchase of the electric utility system of the Township of Watersmeet, serving the unincorporated community of Watersmeet, Gogebic County.

In August, 1928, Wisconsin Michigan Power Company acquired by purchase the electric distribution system of Mapleridge Manufacturing Company, serving the unincorporated village of Rock, Delta County, Michigan.

On October 15, 1928, Wisconsin Michigan Power Company acquired by purchase the electric distribution system

of Northern Sawmill Company, serving the town of Sagola,

—2,197—

Dickinson County, Michigan.

On November 22, 1928, Wisconsin Michigan Power Company, pursuant to authority granted by the Railroad Commission of Wisconsin, acquired by purchase from Wisconsin Gas & Electric Company certain transmission property, including a circuit and one-half interest in towers from Appleton City Limits to a point west of Forest Junction, Wisconsin, both circuit and steel transmission towers from 5000
Forest Junction to Green Bay, Wisconsin, the circuit extending from Green Bay to Amberg, Wisconsin, the circuit from Amberg to Chalk Hills and both towers and circuit from Amberg to Twin Falls hydro-electric plant, near Iron Mountain, Michigan.

On June 5, 1929, Wisconsin Michigan Power Company acquired by purchase the electric distribution system of the Weideman Lumber Company serving in the town of Interior, Ontonagon County, Michigan.

On June 7, 1929, Wisconsin Michigan Power Company acquired by purchase the electric distribution system owned 5001
by Robert P. Kunze, located in the unincorporated village of Sidnaw, Houghton County, Michigan.

On June 22, 1929, Wisconsin Michigan Power Company acquired by purchase the electric distribution system of the Steuben Outdoor Club located in the Township of Winchester.

On August 2, 1929, Wisconsin Michigan Power Company acquired by purchase the electric distribution system of

—2,198—

Trout Creek Manufacturing Company, serving the unincorporated village of Trout Creek, Ontonagon County, Michigan.

On March 31, 1933, Wisconsin Michigan Power Company acquired by purchase the transmission power line of the Oliver Iron Mining Company located in the town of Breitung and in Norway City, Dickinson County, Michigan.

On July 5, 1934, Wisconsin Michigan Power Company acquired by purchase the Quinnesec Falls hydro-electric plant and the transmission system owned jointly by Oliver
5003 Iron Mining Company and the Chapin Iron Mining Company located in Breitung and the city of Iron Mountain, Dickinson County, Michigan, and the towns of Aurora and Niagara in Florence County, Wisconsin.

Mr. Browning: Will you please mark for identification this chart which is entitled "Wisconsin Michigan Power Company"?

(The chart referred to was marked for identification as Respondents' Exhibit No. 48.)

5004 *By Mr. Browning*:

Q. Mr. Van Derzee, was this chart, Respondents' Exhibit 48, prepared under your direction, and was the information shown thereon taken from the books and records of the company? A. It was prepared under my direction and the information taken from the books of the company and generally it has been prepared in the same manner and shows the same general information, except that there is a fourth column, as described in connection with Exhibit No. 46 in connection

with the Wisconsin Gas & Electric Company.

5005

Mr. Browning: I offer the chart in evidence as Respondents' Exhibit No. 48.

Mr. Binford: I would like to ask one or two questions with respect to this.

Are all these transactions presently reflected upon the books of Wisconsin Michigan Power Company, that is to say, all of the transactions purported to be reflected upon Respondents' Exhibit 48 for identification?

5006

I believe you stated that these matters were all taken from the books and records of that company.

The Witness: Yes.

Mr. Binford: They are all reflected in it?

The Witness: They are.

Mr. Binford: No objection.

The Examiner: This chart is received as Respondents' Exhibit 48.

(The chart referred to was received in evidence as Respondents' Exhibit No. 48.)

5007

By Mr. Browning:

Q. Can you state what is the full number of properties so acquired and which have gone to make up Wisconsin Michigan Power Company? A. Forty-two is the number of properties which have so entered into the Wisconsin Michigan

2,200—

Power Company.

5008 *Gould W. Van Derzee—By Respondents—Direct*

Q. What was the effect of the acquisitions upon the rates and service theretofore given to the customers? A. Rates were lowered and service generally was bettered.

Mr. Browning: Will you please mark for identification this chart entitled "Wisconsin Michigan Power Company, Securities Outstanding by Classes as at December 31, 1911-1939, inclusive, and as at June 30, 1940"? That will be Respondents' Exhibit 49 for identification.

5009

(The chart referred to was marked for identification as Respondents' Exhibit No. 49.)

By Mr. Browning:

Q. Was this chart prepared from the books and records of the company and does it correctly set forth the facts therein stated? A. Yes.

Mr. Browning: I offer it in evidence as Respondents' Exhibit No. 49.

Mr. Binford: I would like to ask one question with respect to this proffered exhibit.

5010

On page 2 of the present exhibit and on page 4, thereof, which purport to reflect, respectively, mortgage bonds outstanding and notes outstanding, the interest rate stated is, I presume, the coupon rate in the case of bonds, or the stated rate of interest in the case of notes, is that correct?

—2,201—

The Witness: Yes.

Mr. Binford: The figures at the tops of the respective columns on the pages indicated do not purport

to reflect the actual interest paid by the company, in that they do not show the discount or premium at which the notes or mortgage bonds were sold, that is true, is it not?

The Witness: That is right. There is no inference that the bonds were all sold at par by the mere statement of the coupon rate.

Mr. Binford: The observation is likewise true, in respect of Exhibit 47, is it not, as to the Wisconsin Gas & Electric Company? 5012

The Witness: Yes.

Mr. Binford: No objection.

The Examiner: This last mentioned chart or tabulation is admitted in evidence as Respondents' Exhibit 49.

(The document referred to was received in evidence as Respondents' Exhibit No. 49.)

By Mr. Browning:

Q. Do you have any comments with respect to this chart? A. Page number 1 of Exhibit No. 49 shows the securities outstanding by classes as at December 31, for the period 1911 to 1939, inclusive, and as at June 30, 1940. The table begins with 1911 at which time the par value of the outstanding securities, of which there was one issue, was $750,000.00. 5013

As time went on, the number of issues increased to a maximum of six in the year 1929, and has dropped to four at the present time, that is as of June 30, 1940, but the total par amount has increased to $22,545,000.00.

Going to the detail, and specifically page 2, which refers to mortgage bonds outstanding within the period previously mentioned, a total amount of bonds outstanding in 1912 was $375,000 and as of June 30, 1940, $12,500,000.00.

In that period the highest coupon rate of any of the company's bonds or the underlying issues, was 7½ per cent. Those bonds were outstanding from the period of 1927 to 1930, inclusive.

There were also issues at a 5 per cent. rate and at the
5015 present time the entire issue of $12,500,000 of bonds bears a coupon rate of 3¾ per cent.

As in the case of the other companies, this indicates improving credit and that the company is getting its financial house better in order.

Sheet number 3 shows the capital stock outstanding within the periods mentioned. In 1911 the total capital stock outstanding was $750,000.00. As of June 30, 1940, the amount had increased to $9,425,000.00.

During that long period of years, it was necessary to sell preferred stock having an 8 per cent. dividend rate. This
5016 condition prevailed from 1912 to 1917 in one of the predecessor companies.

—2,203—

There was also a long period from 1917 to 1926 when 7 per cent. preferred stock was outstanding, and from 1926 to 1938 a 6 per cent. series was outstanding.

At the present time, however, and for the last year and a half, there has been outstanding an issue of 4½ per cent. preferred stock, which indicates that the preferred stock rate has dropped to nearly one-half what it was at the peak.

The common stock of $5,425,000.00 now outstanding is all owned by The North American Company.

Page number 4 is a statement of the notes outstanding within the period previously indicated, except that no notes were issued earlier than 1921, at which time $300,000.00 gross amount was outstanding.

That amount has increased to the present time, that is June 30, 1940, to $620,000,000. At one time these notes were serial gold notes bearing an 8 per cent. rate. Those were of the old Peninsular Power Company. 5018

At the present time, the outstanding unsecured promissory note of the company, due serially 1940, bears a rate of 2½ per cent., indicating the improvement that has been made in source of financing by the company.

Q. Can you tell us what provision is made for depreciation by the three electric companies in the Wisconsin-Michigan group? A. In 1939, Wisconsin Electric Power

Company set up depreciation equal to 12.05 per cent. of the operating revenue. That amount was 2.31 per cent. of its property. 5019

Wisconsin Gas & Electric Company, in the same year, set up 12.24 per cent. of revenue and 2.74 per cent. of property.

Wisconsin Michigan Power Company set up 12.76 per cent. of revenue, and 1.77 per cent. of physical property.

The average of 188 public utilities included in the 1939 report of the Securities and Exchange Commission showed 10.88 per cent. of operating revenue and 1.9 per cent. of property. For the three companies, the depreciation reserve in per cent. of property, for Wisconsin Electric Power Com-

pany, was 28.65, for the Wisconsin Gas & Electric Company was 25.81 for Wisconsin Michigan Power Company, 14.03 per cent.; and for the average of the said 188 public utilities, 10.85.

The purpose of this table is to show that the amount of annual reservation by these three companies is substantial by comparison with what the industry is doing generally, and that the depreciation reserve in per cent. of property for the three companies is also well above the average for the
5021 188 companies.

The lowest reserve of the three companies is 14.03 per cent., which is the Wisconsin Michigan Power Company, and that is largely due to the fact that it has so much water power, and also to the fact that it is a relatively late acquisition by the company and its depreciation policies have not been in effect for as many years as in the case of the other

companies.

In giving these figures, I don't mean to state that we actually set up depreciation at exactly these percentages of
5022 operating revenue. These are the equivalent of the annuity and interest on reserve balances that follow the use of the sinking fund method of depreciation which is in effect for all three companies.

Mr. Browning: Mr. Examiner, in that connection, I should like to refer you to the dissenting opinion of Justice Brandeis in United Railways & Electric Company versus West, 280 U. S. 234, in which he said——

Mr. Binford: I object to the quotation. I believe a citation is sufficient for the purpose of this record at this time.

5023

Mr. Browning: The statement in question was The Milwaukee Electric Railway & Light Company was a pioneer in the United States in setting up depreciation, and I thought it would be helpful to the Examiner to have that reference, but what I was going to read was just two sentences and it makes no difference.

Mr. Binford: I will withdraw the objection without in any way conceding.

Mr. Browning: The statement was: "The business device known as a depreciation charge appears not to have been widely adopted in America until after the beginning of this century.

5024

—2,206—

Among street railways, The Milwaukee Electric Railway & Light Company became a pioneer by adopting it in 1897."

(Discussion off the record.)

By Mr. Browning:

5025

Q. Have investors in the securities of the companies in the Wisconsin-Michigan group been unable to obtain the information necessary to appraise the financial position or earning power of the issuing company because of the absence of uniform standard accounts? A. No. The company is using the Uniform System of Accounts prescribed by Public Service Commission of Wisconsin and designed to be in conformity with the requirements of the Uniform System of Accounts prescribed by the Michigan Public Utilities Commission for electric utilities.

5026 *Gould W. Van Derzee—By Respondents—Direct*

The present Uniform System of Accounts was made effective January 1, 1938, and it has superseded the classification which has been in effect for a great many years issued by the former Railroad Commission of Wisconsin.

Q. Your answer was designed to apply to all three companies, I take it? That is, to Wisconsin Electric Power Company, Wisconsin Gas & Electric Company, and Wisconsin Michigan Power Company, except that the Michigan Commission's rules only apply to the last-named company? A.
5027 That is right.

Q. Do the public utilities in Wisconsin publish any financial information? A. Yes, with respect to the information relative to the financial position of the companies, the public utilities of Wisconsin are obliged to publish by March 15 of each year, a complete statement of the assets and liabilities as appearing in their reports to the Public Service Commission in detail. It must be placed in a newspaper of general circulation so that anyone interested can get the information.

Q. Have any of these companies issued securities without
5028 the approval or consent of the states having jurisdiction over them? A. No. The issuance of all securities by public utilities in the states of Wisconsin and Michigan can be made only upon the consent and approval of the regulatory bodies of those states.

Q. Have the three companies issued securities upon the basis of fictitious or unsound asset values having no fair relation to the sums invested in them or the earning capacity of the properties?

Mr. Binford: Objected to upon the ground that the question as framed, being in the words of the statute

referred to, calls for a conclusion of law from the witness.

Mr. Browning: I don't agree that that is a conclusion of law.

Mr. Binford: The interpretation of those words as used in the Statute and as quoted apparently by Mr.

—2,208—

Browning, are words of law.

In effect, the witness is being asked whether or not certain recitals in the Public Utility Holding Company Act of 1935 are or have been applicable to his company. I believe that is a question of law. 5030

The Examiner: Read the question to me now again.

Mr. Binford: If it is not a question of law, it is certainly a question of ultimate rather than evidenitary fact.

(Whereupon, the pending question was read by the reporter.)

The Examiner: I overrule that objection.

Mr. Binford: Exception. 5031

Mr. Browning: Do you want to read the question to the witness?

(Whereupon, the pending question was reread by the reporter.)

The Witness: The state regulatory commission, prior to granting their consent for the issuance of any kind of securities, either in the state of Wisconsin or Michigan, conduct a very thorough and careful examination of the companies' financial condition and

5032 *Gould W. Van Derzee—By Respondents—Direct*

operations and say, themselves, that the proposed issue of securities are supported by sound asset values and bear a fair relation to the sums invested.

—2,209—

By Mr. Browning:

Q. Do the three companies issue securities upon the basis of paper profits from inter-company transactions, or in anticipation of excessive revenues? A. No. The Public
5033 Service Commission of Wisconsin, under its general order known as 2-U-2, issued June 11, 1931, requires that all contracts or agreements, whether oral or written, shall be approved by the Commission if they are entered into with affiliate interests. They have to be filed with the Commission and they are very carefully investigated.

I have something to do with that matter, myself, and very seldom is an affiliate agreement of any kind sent to the Commissions for approval that does not have a good many questions asked about it so that their files relate the entire
5034 circumstances surrounding the case. Sometimes there are hearings.

Q. Well, do you have paper profits between your companies? A. We have no paper profits.

Q. Has any of the three companies issued securities under circumstances which subjected it to the burden of supporting an over-capitalized structure tending to prevent voluntary rate reductions?

Mr. Binford: Objected to as calling for an opinion of the witness.

5035

The Examiner: Well, what have you to say to that, Mr. Browning?

—2,210—

Mr. Browning: I think the witness is well qualified to answer the question. The charge that is made against us is that this practice is intended to prevent voluntary rate reductions. The charge is entirely unjustified. It is not a fact. I think we should be entitled to put that in.

5036

Mr. Binford: I beg to differ as to any such charge of such character being made in this proceeding. Mr. Browning endeavors to construe the introductory portion of the Public Utility Holding Company Act of 1935 reciting abuses which led to the enactment of that Act as expressed by Congress as an indictment of his particular clients in this particular proceeding which he is called upon to answer. I fail to see that that is an issue before us at this time.

Moreover, I still assert and insist upon my objection to the effect that the question calls for the opinion of the witness. There are certain matters requiring expert knowledge as to which opinion evidence may be given as such, but as to conclusions of ultimate fact those things are for the tribunal which ultimately must judge the case and they are not to be answered by a particular witness upon the stand.

5037

Mr. Browning: I submit that this witness, by his training and qualifications, is so well qualified to express opinions on these questions that the tribunal which is ultimately to decide those questions ought to wish to have his opinion.

5038 *Gould W. Van Derzee—By Respondents—Direct*

The Examiner: I will permit the witness to answer the question and you may have an exception, Mr. —2,211—

Binford.

Mr. Binford: Thank you, sir. I will take the exception.

The Witness: Well, it is true that all public utilities operating in the state of Wisconsin and in the state of Michigan can issue securities only upon the

5039 consent and approval of the regulatory commissions of those states.

The point that Mr. Browning made that related to whether or not rate reductions were being held off because of securities being issued that should not be issued, I would like to state my intimate knowledge of the methods of regulation in Wisconsin and Michigan, which determine rates entirely independent of securities and based only on the fair value of the property.

I have had too intimate dealings in the last 28

5040 years with proving property and having the figures used in the determination of rates, without any reference whatever to securities to believe that any rate reductions are interfered with by improper issuance of securities.

By Mr. Browning:

Q. That is, the two things simply aren't connected. Rates are based on a rate base. A. Yes.

Q. Which is independent of securities issued. A. In the case of Wisconsin Electric Power Company, for example,

the old Railroad Commission of Wisconsin made an inventory and appraisal of January 1, 1914. I personally worked very close to that, supplying information that the Commis-

—2,212—

sion wanted at that time. The inventory of physical property, when finally completed, was appraised by the Commission and certain value set, and it is on the basis of that January 1, 1914 appraisal which happens to give a value less than the actual book figures that net property additions are added from that time to this to determine the rate 5042
base. It has no relation to securities whatsoever.

Q. Are your three electric companies subjected to excessive charges for services, construction work, equipment and materials by The North American Company? A. No, no payment is made to The North American Company for services, construction work or equipment.

Q. Have they entered into transactions in which evils have resulted from an absence of arm's length bargaining or from restraints of free and independent competition?

Mr. Binford: Mr. Examiner, I haven't objected to 5043
the last two questions but I wish to object most strenuously to that; it requires the opinion of the witness as to what is evil and it is certainly a thing upon which I have never heard of expert opinion testimony being offered.

The Examiner: I will sustain that objection.

Mr. Browning: Mr. Examiner, I find myself at a disadvantage because I should be the first to concede the nonsense that was placed in this statute. The witness has just pointed out the nonsense in the preced-

5044 *Gould W. Van Derzee—By Respondents—Direct*

ing question. I find myself at a disadvantage, there-
—2,213—
fore, in dealing with it.

By Mr. Browning:

Q. Has control of your electric companies by The North American Company affected the accounting practices and rate and dividend policies of such companies so as to complicate and obstruct state regulation of such companies? A.
5045 No.

Mr. Binford: I had no opportunity to object to that question before it was answered. Therefore, I now move to strike both question and answer, insofar as the question relates to the effect of The North American Company's influence upon state regulation, in that that, again, calls for the opinion of the witness.

There was a witness before this who might possibly have been qualified to express an opinion upon that subject but I do not believe that this witness has
5046 been a member of any regulatory body insofar as the record shows, which would qualify him to answer the question as an expert, nor is he now asked to state any facts which might lead to a conclusion by the Commission or the Courts as to the truth or falsity of the statement. He is merely asked for his own personal feeling in the matter, in effect, and at best his opinion.

Mr. Browning: Mr. Examiner, this witness has had a very intimate contact with state regulation. He has had a contact which has extended over a period of some 27 years. He has an acquaintanceship and

a knowledge of that subject which cannot possibly be

—2,214—

duplicated here.

(Discussion off the record.)

The Examiner: I think that the experience and activities of this witness before and with the regulatory bodies of Wisconsin and Michigan should be more clearly established in this record as a predicate for this question. 5048

By Mr. Browning:

Q. Have you had any contact with the Public Service Commissions of Wisconsin and Michigan? A. I have had quite extensive contact with the Public Service Commission of Wisconsin and a lesser contact with the Public Service Commission of Michigan. My contact with the Public Service Commission of Wisconsin goes back to 1914 and at that time, as I stated a few moments ago, I was very intimately connected with the valuation work of our property which was under the direction of the Public Service Commission of Wisconsin. I was the individual in the company then rated as 5049 assistant to the vice president who had charge of all of the contacts with the Commission engineers from the time the inventory was started until the appraisal was completed.

That experience involved a rather basic grounding in the making of appraisals of public utility property, in fact the valuation of January 1, 1914 of The Milwaukee Electric Railway Company has been referred to in subsequent years as one comprising great detail and the particularly good chapter on various overheads of construction that went with it.

—2,215—

5050 My personal duties at that time, in addition to taking care of the company's end of seeing that all the property was counted, included many discussions with the engineers of the Commission as to the proper price to be placed. The Commission did not just arbitrarily state, "We are going to use this figure". The Commission engineers asked us to produce evidence that prices of underground conduit poles and machinery as proposed by us were correct.

We had long and detailed discussions on what is the
5051 proper amount for interest during construction, what is a proper amount for omissions of inventory, what should be allowed for insurance, injuries and damages, and in fact in the three years that were involved in the making of the inventory before the inventory was finally priced, I think I went through every classification of inventory and appraisal work as applied to a rather large property.

After that time I had charge of rate contacts, all of them, for The Milwaukee Electric Railway and Light Company, Wisconsin Gas and Electric Company, and Wisconsin Michigan Power Company. I appeared at the request of the
5052 staff to discuss rates informally. I have appeared before the Commission to discuss rate problems of the company informally and I have appeared in many formal casses before the Commission and discussed the philosophy of rate-making in all its various aspects.

—2,216—

I have appeared before the Commission as a representative chosen recently by the utilities of the state to open up the discussion on various new rules and regulations which the Commission propounded and which the companies of the

state objected to because of the fact that it appeared to the companies that the Commission was endeavoring to enter the field of management through the route of regulation.

I have, in the field of accounting, appeared before the Commission on many different subjects and over a long period of years and on the Classification of Accounts with particular emphasis on important topics such as depreciation. I have put in testimony from time to time in connection with rate discussions on cost of money, rate of return, financial requirements viewed in relation to what you need to service 5054
your debt and cover your preferred stock dividends and your common stock, and for surplus.

I haven't had occasion ever to tell anybody on short notice just what are all the things that I have done in the field of regulation.

(Discussion off the record.)

The Examiner: Let's go back on the record now and let the witness finish his answer, unless you want to ask a question.

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The Witness: In connection with the appearance before both the Commission and the staff in the matter of rates, I have personally developed, for example, the "Ten for One" plan which was described by Mr.

—2,217—

Schmidtmann. I developed it and I named it. I had to sell it to the staff and to the Public Service Commission of Wisconsin so I have been active in the field of rates which is one of the end-products of the Public Service Commission deliberations.

5056 *Colloquy*

With respect to the Public Service Commission of Michigan, my earliest contacts with that body were about the time that our interests acquired Peninsular Power Company. I participated in a rate case before that body probably as far back as 1925.

One of the things that I remember about that particular case which looks strange in the light of present day conceptions was that they thought perhaps the depreciation was a little bit low and agreed that after
5057 earning eight per cent. on the investment we would have to put the balance in depreciation reserve until a certain figure was reached.

Those conditions, of course, are far away and long ago.

Shortly after the instance I just cited, and after we had completed a valuation which I had charge of for all of the various properties that went into the consolidation of Wisconsin Michigan Power Company, I appeared before the Michigan Commission and explained and had approved the valuation of the physical
5058 property of that company. One of the instances of that particular appearance, which was about 1927, as I recollect, was the look of amazement on the faces of the Commissioners when I volunteered that the company was not interested in reproduction cost for the making of rates or had never been up to that time,

and as far as I could see did not expect to be in the use of cost of reproduction.

I have had various contacts from time to time since then with the Michigan Commission, but infrequently.

The personnel set-up, methods of operation, are quite like the Wisconsin Commission although they haven't been as intimately into the details of things for as long a period of time.

I personally sign all of the rate sheets that go to the Michigan Commission and the Wisconsin Commission for all the companies in our group. I mention that merely to indicate that I still keep in active touch with matters of rates, methods of formulating them, and that I have a date for a personal appear- 5060
ance before the Public Service Commission of Wisconsin about the middle of October which will involve a long discussion on the question of the ability of the company at this time to make further reductions in rates and the relation of that problem to the future.

By Mr. Browning:

Q. As one of the general executive officers of the three companies, have you been in general charge of all matters in connection with the Commissions for some time? A. While there has been no line diagram stating that I am in 5961
general charge, I keep in contact with all important matters that are coming before the Commission and participate actively in the formulation of the character of information that is to be given before them where any important rate

cases are involved. I don't go out there on every little discussion of claims and minor changes in rates. I have an assistant, Mr. E. J. Steinberg, who is called an executive assistant, who devotes practically all of his time to the minor operations and rate problems of the three companies.

5062 *Gould W. Van Derzee—By Respondents—Direct*

Q. You are in intimate contact with the policies of the companies in dealing with the Commissions? A. I am.

The Examiner: Now, the state of the record is that the question propounded and the answer of the witness is in the record and there is a motion pending to strike both from the record.

Now, I understood, Mr. Binford, you wanted to make some additional objections.

5063 Mr. Binford: I wish to add to that motion which has not been passed upon.

The Examiner: All right.

Mr. Binford: May I have the question read?

The Examiner: Yes.

(Question indicated was read back.)

Mr. Binford: As previously stated and in the form previously stated, I renew my motion to strike the question and answer upon which the Examiner reserved ruling, and upon that motion which has not yet been passed upon, we wish at this time to have

5064 the following additional grounds therefor:

First, that it has not been shown that the common ownership of the three companies suggested by the question has affected the methods of accounting and other practises mentioned in the question of the three companies.

Secondly, that the question upon its face shows that it is a continuation of an attempt to interject as an issue in this case the question of whether the particular evils which the Congress in Section 1 of the Holding Company Act of 1935 found to be wide-

spread and to call for the enactment of that Act are or have been particularly present in the case of the instant respondents.

The Examiner: In other words, you say it is irrelevant?

Mr. Binford: And therefore the question and all questions along that line are irrelevant to the issues in this case.

Thirdly, the testimony given by the witness, since the question was propounded, is still insufficient to 5066
establish a predicate for an answer thereto by him.

The Examiner: I am going to reserve ruling on this motion and will dispose of it before the direct examination of the witness is concluded.

By Mr. Browning:

Q. Mr. Van Derzee, has any of the three companies ever defaulted in the payment of interest or principal upon any obligation or in the payment of any dividend upon any preferred stock?

—2,221—

The Witness: No, there have been no defaults in 5067
the payment of interest or dividends on preferred stock.

Mr. Browning: I think we have reached a good stopping point, Mr. Examiner.

The Examiner: All right, we will recess until 10:00 o'clock tomorrow morning.

(Whereupon, at 4:40 o'clock p. m., the hearing adjourned to reconvene at 10.00 o'clock a. m., the following day.)

—2,222—

5068

BEFORE THE

Securities and Exchange Commission

Docket No. 59-10

IN THE MATTER

of

THE NORTH AMERICAN COMPANY, *et al.*

5069

Hearing Room 1101,
Securities and Exchange Commission Building,
Washington, D. C.,
Tuesday, October 1, 1940

Met, pursuant to adjournment, at 10:00 o'clock a. m.

Before: W. E. SWIFT, *Trial Examiner.*

5070 Appearances:

S. PEARCE BROWNING, JR., and CHARLES S. HAMILTON, JR., of Sullivan & Cromwell, 48 Wall Street, New York City, Attorneys for the Respondents.

RALPH C. BINFORD,

HERMAN O'DELL, and

MISS E. H. CALKINS, Attorneys on behalf of the Securities and Exchange Commission.

PROCEEDINGS

The Examiner: The hearing will come to order.

Whereupon, GOULD W. VAN DERZEE resumed the witness stand and testified as follows:

Direct Examination by Mr. Browning (Continued):

Q. At yesterday's hearing you gave some comparative statistics with respect to the depreciation provision and reserve of your three electric companies as compared with the 5072
average of 188 public utilities published by the Securities and Exchange Commission and you were asked to check the basis of these figures.

Will you please tell us the basis you used? A. All of the figures which I quoted for the three companies in the Wisconsin Michigan group and figures for the 188 companies I found in a report of the Public Utilities Division of the Securities and Exchange Commission entitled, "Financial Statistics for electric and gas subsidiaries of registered public utility holding companies, Year 1939", on page 3 thereof. In other words, all of the comparative figures were obtained 5073
from said volume and presumably are on the same basis.

The column that relates to the per cent. of operating revenue is headed, "Per cent. depreciation of operating revenue." The column that relates to the depreciation in per cent. of property is headed, "Per cent. depreciation of property", and the column relating to the accumulated reserve

is headed, "Per cent. depreciation reserve of property".

I understand that these percentages are taken from the income accounts with respect to revenue and the balance

sheet items with respect to depreciation so that they would, therefore, show depreciation insofar as it relates to a per cent. of property as a per cent. of property shown on the balance sheet as per books, it would be total property.

Q. At the close of the hearing yesterday I asked you whether any of the three electric companies had ever defaulted in the payment of any interest or principal on any indebtedness or in the payment of any dividends on preferred stock, and I am not sure that your answer covered the ques-
5075 tion of payment of principal.

Has there ever been any default in the payment of principal of any indebtedness? A. There has been no default in the payment of principal of any indebtedness. There is also another item that should probably be mentioned and that relates to the payment of preferred stock dividends. They have been paid continuously since 1900.

I did not mention that on the early issue of non-cumulative preferred stock which I believe was issued in 1896, no dividends were paid until approximately 1900 because I did not consider that failure to pay non-cumulative preferred
5076 dividends constituted a default.

—2,225—

By Mr. Hamilton:

Q. Mr. Van Derzee, will you refer to Respondents' Exhibit No. 32, being the map of the three companies, and particularly to the territory and transmission lines in and about the community of Cooks in Schoolcraft County, I believe, in Michigan, and the community of Michigamme, in Marquette County, Michigan.

Will you state whether the lines I have just referred to and the surrounding service territory were acquired

by Wisconsin Michigan Power Company pursuant to any particular plan of acquisition? A. The two lines to which you refer were acquired for the interests of Wisconsin Michigan Power Company if not immediately by Wisconsin Michigan Power Company, as a part of a general plan for a system in the upper peninsula.

It so happens that up to the present time conditions have been not just right for the interconnection of these two systems directly with the balance of the system but the lines are a part of the long-term program designed for inter- 5078
nection at the proper time.

We have had negotiations, particularly with respect to intervening properties in between the village of Cooks and the point where power is purchased from the Cliffs Power and Light Company relating to taking on more property now owned by others. These negotiations come to life periodically, in fact within the last few months I have

—2,226—

received letters from representatives of the ownership of the most substantial property in between Cooks and Cliffs asking if we are now ready to look into the matter further. We 5079
have replied that we are interested and it is primarily a question of price. That is where the matter stands at the moment.

The acquisition of more of the intervening property in between Cooks and the point where power is purchased by the Cliffs Power and Light Company for that line will be a material factor in the time that our lines may be extended from another point on the system so as to interconnect. We expect that that will be done, in fact I had to do with the laying out of the original line down to Cornell.

5080 If my recollection serves me right that is a 66,000-volt line and the high voltage was made available so as to provide a source of power beyond that point. When we originally acquired the system from Michigamme leading in a general westerly direction to the point on the map where power is purchased from the Cliffs Power Company, we had in mind ultimate connection across from Sidnaw to the west. It was about the time that we had acquired some substantial water power sites on the Sturgeon River which is in the township
5081 of Baraga and flows into Lake Superior.

The idea was that at the appropriate time we would make a development on the Sturgeon River and then run high voltage lines approximately due southeast towards Twin Falls where the 132,000-volt line of the company now

terminates, and would tap the line not now existant between Sidnaw and Michigamme to bolster up the voltage at that point.

We also had in mind at that time further extension of our own lines from some point near where Cliffs Power Company
5082 sells power to a point in the general neighborhood of Cornell, making a form of loop which would be advantageous in the supply of power entirely by our system if we should ever have outages that require rerouting of service.

Q. The map is stated to be of a scale of 10 miles to the inch. Would you approximate the distances between the transmission line terminating at Sidnaw and the transmission line originating at Michigamme? A. I would say about 30 miles.

Q. And similarly from the community of Channing in Dickinson County, to Michigamme? A. Between 20 and 25 miles.

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Q. And if you will, the approximate distance from the community of Perkins in Delta County, I believe, to the community of Cooks in Schoolcraft County? A. Between 25 and 30 miles.

Q. Both the transmission line running from Cooks and the transmission line running from Michigamme are connected with the system of Cliffs Power and Light Company, are they not? A. They are.

—2,228—

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By Mr. Browning:

Q. Does the management of your utilities involve problems of a diverse nature, Mr. Van Derzee? A. Yes, there is a great variety of problems in almost every field of activity. I have testified previously that financing involves quite a variety of very complex and continuing problems. The generation, transmission, and distribution of electricity involve many problems of a different kind and some of them are extremely technical in nature.

In the field of generation for example, the determination of the proper time at which to add additional generating capacity and the determination of the place at which such capacity shall be added are important problems, in fact they are major problems. Extensive studies are made of the costs and advantages of alternative locations at which plants may be placed in order to have the most effective and most efficient location and at the same time with due regard for the future requirements of the system.

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After we determine the location of a power plant there are a great many technical problems that have to be solved. They relate to the selection of the proper type of generator

and the discussion of the generator, itself, involves a good many problems. If it is a new station the question of the proper type of voltage and the proper steam pressure to be used in the turbine and the point at which the most load will be carried for the longest time comes into the picture.

—2,229—

If it is an 80,000 kw. turbine and your average load is going to be 60,000 kw. then you would be foolish not to design the turbine so that you get the maximum efficiency
5087 at three-quarters load.

There are a great many problems in the proper selection of boilers. There are innumerable problems in connection with the determination of the hundreds of auxiliaries of various kinds that go into the make-up of a station.

We had a little problem that may be of interest to you in connection with the determination of temperature of steam. It doesn't sound like an important problem but one of the engineers came to us and said, in effect, "We think that we ought to reconsider the steam temperature of the steam to be used. Instead of 825 degrees F. maybe we should go to 900
5088 degrees F."

Well, we said, "What does that involve?"

After examining the question with the boiler makers, the turbine makers, the makers of pipe, we found that altogether it would add about $100,000 to the cost of the additional capacity in order to raise the temperature 75 degrees. They found that with that increase in temperature we could probably save, say, $12,000 worth of coal per year so the problem of management was, Is $12,000 a year worth saving with an investment of $100,000?

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To the average engineer that looks like a 12 per cent. return but we can't overlook the fact that taxes and depreciation over the life of the property take fully half of that amount, leaving only a 6 per cent. return on the investment,

—2,230—

and if there are other places where $100,000 can be used to greater advantage that will help tend towards reduction in rates by accomplishing a larger saving than that, then that is the place for the $100,000 and not in equipment necessary to raise the temperature of steam 75 degrees.

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The general executive officers of the company don't make these studies but they direct that they be made and it is quite essential that the general executive officers be able to pass intelligently upon the problems that come before them of the nature that I have indicated.

A typical problem in the field of transmission would be the selection of suitable transmission line. We have such a problem now in connection with Port Washington No. 2. Should it be a wood pole "H" frame construction line with long spans of aluminum wire and a steel core, or should it be a steel tower line involving copper conductors, shorter spacing and smaller wire?

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In this particular case it happens that the company has need for a single circuit line, at least it has need for it at sometime connecting Port Washington and the Granville sub-station at the outskirts of Milwaukee. Right now we have one 80,000 kw. turbine and two transmission lines, each one of 90,000 k. v. a. capacity, so that if one line is out there is a reserve line to carry the output of the generator.

—2,231—

5092 The ultimate installation at Port Washington is expected to be four 80,000 kw machines. It is obvious that at such time we need at least the additional transmission line of 132,000 volts, so that in case of outage of one of the lines we will have one spare and the problem of whether we shall now put in that single circuit line which would be the fifth line upon the completion of the whole project, or whether we shall now put in a set of steel towers capable each of holding two circuits at greater present costs, is one of the
5093 problems of management in connection with transmission lines.

My own inclination is to save the money. While we think we are going to build a station to ultimate capacity one never knows. We haven't an abundance of available capital so I think the decision of the management will be that we will put in the "H" frame construction with a longer spacing, aluminum wire with steel core, and perhaps avoid an investment of $100,000 that would be involved in putting in steel towers capable ultimately of carrying two circuits.

5094 In connection with those problems there are such little minor engineering questions as what are the facts with respect to corona losses in transmission lines? The larger wire that goes with the aluminum construction and steel core has somewhat less corona losses than the smaller copper wires of the same conductivity, both operating with the same voltage and spacing, but that is not a particularly important problem in these determinations and I merely mention it to

indicate that there are diversion problems in what appears to be a simple field of transmission that involves engineering

knowledge for the executives to pass intelligently upon those things that are brought before them for decision.

A typical technical problem involving distribution of electricity we find in the downtown district of Milwaukee. We had to determine sometime ago whether we were going to continue direct current disfribution in the downtown district continuously or whether we should go to some other more economical form of distribution. Many large cities, in the downtown areas, have inherited the direct current system. It was the system originally designed by Mr. Edi- 5096
son and was known as the Edison Three-Wire Direct Current Distribution System.

In those days voltages were low; distances were short. 230 or 240 volts across the outside wires of the Three-wire system, that is from the positive to the negative, represented the voltage in use. Naturally when you start a system you have to continue it for sometime and so 240 volts between positive and negative wires has continued in the case of the downtown distribution system of Milwaukee, with 120 volts between either outside wire and the so-called neutral wire.

Power is taken off the 240 volt wires and lighting for 5097
the average incandescent bulb is taken off the circuit between the outside wire and the neutral wire.

—2,233—

The transmission of power by such a system in a downtown district was recognized a number of years ago to involve inherent disadvantages. Buildings were getting higher, air conditioning was beginning to be required by customers and lighting loads were growing with great rapidity. The source of direct current for these downtown buildings was from sub-stations. As a rule they are known

as converter sub-stations and in them are rotary converters which obtain their source of power from an alternating current line and such alternating current is converted into direct current required for the Edison Three-wire System.

The growth of direct current load means more sub-stations in downtown areas because you cannot transmit direct current long distances. The picture before the management was of buying very expensive downtown property with the possibility that zoning or other restrictions might not
5099 even permit the installation of such rotary converter sub-stations. It involved continuous extension from such sub-stations of larger and larger cables and more of them in order to supply the needs of these buildings that were continually going higher up into the air.

So we adopted, after considerable study, a long-term program of gradually converting the downtown area from direct current Edison Three-wire distribution system to the alternating current work system. We had in mind at that time that it might take 25 or 30 years to bring about the change.

5100 A great problem of management in connection with such an undertaking was to determine first what is the best

system to use, and then, how shall it be carried out? We didn't want to rush foolishly into such a program when we didn't need to. We had the consideration of making the old direct current equipment last its useful life. We had considerations of human nature to take into account and human nature is involved in problems of this kind.

Suppose we were to go to a large office building and

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say, "Well, we are just dead anxious to change you over from direct current to alternating current. The capacity of our direct current system is right up to the limit. We must make the change." The obvious answer of the building owners is, "Well, come on in boys, but don't charge us anything."

Right away you get into the problem of changing hundreds of pieces of expensive apparatus used by doctors, thousands of direct current motors to alternating current motors. They would even charge you for the sub-station 5102
space in the basement, so that isn't the method of approach, but somebody has to decide that.

I know of instances where that has been the method of approach and it has cost a great deal of money so we started early and the natural inclination of business and property owners in the downtown district was to come to the company and ask if they could at sometime have alternating current service; because we were still able to supply them with direct current we said, "Yes, you can have it in accordance with the rules that we have filed with the Public Service

 5103

Commission of Wisconsin," and that involved supplying alternating current service from the new A. C. network providing it was a new building, providing that the load was at least 75 kw., and there were some other conditions that were favorable, not so much to the company but to the ultimate customer.

It would not be fair to saddle onto the cost of other classes of service or even onto commercial service as such, the great expense of an ill-considered change from direct current to alternating current. Now we get the use of these

5104 large spaces in the basements of buildings under the sidewalks for nothing. They are glad to get the service and we make the change when we don't have to pay for the cost of changing the equipment of the customer. We expect to do it over a period of a great many years and to the ultimate advantage of the customers.

The technical reason why the expense is so much less for the alternating current system than the direct current system is that the capacity of a cable for carrying power is a
5105 direct function of the voltage impressed on the cable. If you have 13,200-volt cables, as we do servicing each one of these customer sub-stations in the alternating current network, it is obvious that with the same size of cable in the old ducts that carried direct current cables before, many times the amount of power can be transmitted.

Now, there are managerial problems of a different kind involved in the determination of sales policies. Engineer-
—2,236—
ing skill, without parallel sales push, would be useless. We would be all dressed up and no place to go, so it is important
5106 that some degree of intelligence be directed so far as we are capable to the determination of proper salesmen and policies. They involve at many stages the direction of the proper place to put your emphasis.

As an example of that, a number of years ago we saw a big field in electric water heating in the homes. We knew, first, that we had to have a very low rate for current in order to sell electric water heating. In order to get a low rate for current, you can't have very many fixed charges attached to the rate. The current is used at a time when

other people are not demanding service and that means largely in the night hours.

We developed a storage electric water heater. We had it made, as I believe I testified a few days ago, by the Hevi-Duty Electric Company because at that time you could not go to all the different manufacturers and just pick a well-developed electric water heater off the shelf. If that had been the case we would have had no occasion to be thinking about developing the electric water heater business. Somebody else would have already developed it and the manufacturers 5108
would have handled the problem, perhaps, but we found considerable usual delay.

We decided that the time during which the current could be used for heating the water in the homes was a period of ten hours ending at 7:30 in the morning and beginning at

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9:30 the following day. With a period of ten hours for heating all the water you are going to use the next day, you have to have a fairly good-sized tank. We developed sizes of 50, 80, 120 and 160 gallon tanks and put suitable units in the bottom and top of them in order to get the water up to 140 5109
degrees in that 10-hour period and also in the case of unusual demand for water by the householder resulted we had another unit in the top of the tank which was connected directly across the house meter terminals and if the customer wanted heat in the daytime he had to pay the regular rates but very seldom was that the case.

The terminals supplying current to the lower unit were behind the meter because of a flat rate and we charged so-much for electric water heating service when you had a 50-gallon tank and so-much when an 80-gallon tank was used. The service was quite popular.

It developed, however, that because of the short time for heating water the cost of apparatus was greater because the tank had to be larger and so we set about later developing an alternative proposition involving a smaller tank and an increase in the hours of charging, so-called, from 10 to 16 a day. We picked out a period in the night when the current could be used without interfering with the distribution of the plant peaks and periods in the daytime such as the natural let-up of industrial activity at the noon hour and for quite
5111 a while thereafter, and together we have now a 16-hour charging period with an 88-mill rate for it and the cost of

—2,238—

water heating in the home is quite competitive and it is very popular. That represents one of the problems that management had to get in on. I, personally, worked extensively on that particular problem.

There are other types of managerial problems. The field of accounting requires managerial attention. It involves complex problems which require a knowledge of both accounting and engineering. Under the classification of ac-
5112 counts the Public Service Commission, effective January 1, 1938, companies were required to make comprehensive depreciation studies and to indicate within a certain period the justification for the type or method of depreciation accounting desired by the company, if it desired to differ in any way from straight line depreciation, which was practically laid down as preferential in the Classification of Accounts.

The determination to continue to use the sinking fund method which our companies had employed for a long time with the 3½ per cent. interest charge on reserve balances

was a managerial problem, with which the management was in close contact for a period of two and one-half years prior to the time that the Commission issued its order making the sinking fund method of depreciation accounting effective.

The management should be able to understand problems of that type and I am glad to say that not only the general executive officers understand the distinctions between straight line and sinking fund depreciation accounting with

its various ramifications, but that the executive committee 5114
as a whole has a good working knowledge of that subject and it was very much in discussion at the proper time.

We have borderline cases between capital expense and maintenance expenditures which find their way up to the management for discussion at least. Comptrollers are, of course, men who are by training and qualification best able to expound the subject of what is the proper account to use but sometimes a little knowledge of engineering and accounting and practical application of the thing that is being discussed goes a long way to clarify the mind of the accountant that may possibly not have had an engineering background. 5115

We have a problem just like that in the shop now. The generator winding of a 30,000-kw. unit at the Lakeside plant burned out. We were all much surprised to find that the cost of replacing that generator winding was $50,000 and we were quite shocked with the magnitude of that expenditure. We checked it up very carefully with friends of ours in the turbine business who had not made the turbine of which the coil burned out and they just told us off-hand, "That ought to cost about $48,000."

5116 *Gould W. Van Derzee—By Respondents—Direct*

Well, now we all know what units of property are, or we think we do. A unit of property is something that you can write out of the property account and replace by a charge for the new unit to capital and charge the old one to depreciation reserve and credit the reserve with whatever scrap

—2,240—

value there is in it and charge the reserve for the cost of removal.

Was this $50,000 expense in replacing a winding a capital
5117 charge or a maintenance charge? Well, notwithstanding the definition of units of property there are some collateral interpretations which read to the effect that improvements in what might be elements of property, if they affect the efficiency of the machine or the life of it, generally make a betterment out of it, can be considered as a capital investment. So there was a problem that the management had to face.

Should the cost be charged to maintenance or should the new winding be charged to capital and the old winding retired? These and many other accounting questions involving both engineering and accounting find their way to the desk of
5118 management.

(Discussion off the record.)

The Witness: We come to one of the last fields in which management has to delve and that is in the field of customer relations. In that field arise some of the more difficult problems of management. They are different from other problems because there are no set accounting and engineering rules by which the satisfaction of the customer with the service can really be determined.

After all, the customer is fundamentally interested in efficient service at low cost. He has no knowledge and probably has no interest in the problems that the company has. He does not care whether we use a

—2,241—

boiler made in Timbuctu or some other place. Of course, the over-all effect of good general management rebounds to his benefit, but he has not any particular interest in the details of how we accomplish that result. That is what he pays us for. He is too busy 5120 with his own problems to have any great concern in ours. He is a local customer dealing with a local company, manned by local people.

Thus we see the great diversity of problems which reach the desk of the management.

Mr. Browning: Will you please mark for identification this chart entitled, "Wisconsin Gas and Electric Company, Electric, Gas and Transportation Systems."

(Chart was marked for Identification as Respondents' Ex. 50.)

5121

By Mr. Browning:

Q. And does it correctly set forth the facts which it purports to set forth? A. It does.

Mr. Browning: I offer it in evidence as Respondents' Exhibit No. 50.

Mr. Binford: No objection.

The Examiner: This chart is admitted in evidence under the number assigned to it.

5122 *Gould W. Van Derzee—By Respondents—Direct*

(Chart admitted in Evidence as Respondents' Ex. 50.)

—2,242—

By Mr. Browning:

Q. Does the local character of your problems vary? A. Yes, the local character of our problems varies quite extensively but before going into the details of just how that variation occurs I think it would be well to get a certain
5123 amount of background which I can give you best by reference to the last exhibit which has just been presented.

The exhibit shows, by outlining, what the various divisions and districts of the operating territory are of Wisconsin Gas and Electric Company. This, I think, is a typical company having far-flung districts and I will now describe where these districts are and how the company is generally operated within the districts and divisions.

Starting at the lower right-hand corner of the map, the word "Kenosha". That refers to Kenosha County but you will find a line drawn north and south about through the
5124 letter "N" as it appears in Kenosha which is the west boundary of what we call the Kenosha division. The Kenosha division is generally that part of the county of Kenosha east of the line just described. The head office of the division is at the city of Kenosha. The division manager is Mr. H. M. Pauley who operates from that point. He is a man 52 years old and has been with the company for 23 years. This division is so relatively small that it is not necessary to have what are called local agents distributed throughout the property.

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The next division to the north is the Racine division. The Racine division is outlined in the color brown. The Racine division has its main division office at Racine. Mr. R. I. Swift operates from that point. He handles both the electric business of Wisconsin Electric Power in Racine and the gas business of Wisconsin Gas and Electric Company and the remaining business in the territory called the Racine division of Wisconsin Gas and Electric Company. Mr. Swift is 42 years old and has been with the company for 18 years.

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In Cudahy and South Milwaukee there is a gas distribution system and in the Racine division there is one superintendent of what is called the Cudahy district. Mr. M. Martinson is the superintendent of that gas district. Mr. Martinson is 38 years old and he has been with the company for 20 years.

The largest division of the company is the Western division. The head office of the Western division is at Fort Atkinson. At that point Mr. W. D. Leonard directs all of the operations of the Western division. Mr. Leonard is 55 years old. He has been with Wisconsin Gas and Electric Company for 13 years and with the predecessor municipal system for a great many years prior to that time.

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In the Western division are a number of districts and the first one of these is the Burlington district which is shown outlined in red, starting just to the west of the west line of the Kenosha division. The local superintendent in the Burlington district is Mr. F. Langley. Mr. Langley is 46

years old and has been with the company for 14 years. He lives in Burlington and I believe is acquainted with most all the people in the district. Mr. Langley, as a district man

5128 ager or superintendent, reports to Mr. Leonard, the division manager, and the district managers, in general, have about the same relation to their proper[illegible] as the division managers to theirs where there is no districts.

In the Burlington district you will see a small red circle way down near the state line. That is the location of the local agert and I shall tell you later more about what local agents do and at the present time merely indicate that they take care of the need of the customers in the districts in
5129 which they circulate.

The next district of the Burlington division, further west of the Burlington division, is the Whitewater district. The office of the Whitewater district is at Whitewater and Mr. H. F. Winnie is in charge. He is 44 years old and has been with the company for 26 years.

As we go along I shall point out that the location of these district offices is practically the same place that the only office that the predecessor companies had was located prior to the time that we acquired such companies as the Burlington Electric Light and Power Company and the White-
5130 water Electric Light Company.

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In the Whitewater district Mr. Winnie has one local agent. He operates out of the village of Palmyra where you will see a solid blue circle.

—2,246—

The next district is the Fort Atkinson district, the headquarters of which are located at Fort Atkinson.

This district is under the supervision of Mr. E. E. Hein. Mr. Hein is 36 years old and has been with the Company for 12 years.

It is merely a circumstance and an appropriate one that Mr. Hein, the superintendent of the district, is at the same location as Mr. Leonard, the manager of the division.

The fourth district of the Western Division of Wisconsin Gas & Electric Company is known as the Watertown District, with head office at Watertown, under the direction of the district superintendent, Mr. E. T. Hornickle, who is 49 years old and has been with the Company for 22 years.

In Mr. Hornickle's district is a local agent at the village of Lowell. 5132

That location is up in the northern part of the district which is outlined in green.

There is also a Waukesha District, consisting of the city of Waukesha and in charge of that district is Mr. L. V. Schivursky.

Mr. Schivursky is 41 years old, has been with the Company for 15 years.

Out of that office are directed the affairs of what was once the old Waukesha Gas & Electric Company.

In the case of Watertown just described, we have a local

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office, just as the old Watertown Gas & Electric Company had. That is possible where you service large areas out of one office.

Now we come to the Northern Division, and that is one of the typical divisions.

It has no districts, and for which reason there are a number of local agents.

I wish to describe to you, because it is typical, more of the detailed operations of this particular division. The division is in charge of Mr. W. E. Kuehlthau, who is 56 years of age.

Mr. Kuehlthau has been with the Wisconsin Gas & Electric Company for eight years, and he was with the predecessor company, which we acquired, for 32 years. So he has been in the public utility business for 40 years.

Mr. Kuehlthau's headquarters are located at West Bend, which is the so-called division headquarters. At that point Mr. Kuehlthau has an assistant division manager by the name of C. P. Strodthoff.

Under Mr. Kuehlthau and Mr. Strodthoff are all of the operations of the Northern Division.

One of the principal divisions of the work in the Northern Division is that of the chief clerk—Mr. R. S. Kelley. Mr. Kelley has under him some nineteen employees—a senior clerk, one figurer, one general clerk, one cash poster, one

machine biller, one addressograph operator, one balancer, one receiver, one prover, three credit and collection clerks, and two stenographers, one telephone operator, three meter readers and one stock checker.

That little group does practically everything that the Customers Accounts Division does in a large company. It takes care of all the operations, from meter reading to the collection of the bills for the entire district, except as it is necessary to make occasional check meter readings, and that is done by the local agent.

Then, under these two directors of the Northern Division, Messrs. Kuehlthau and Strodthoff, is a sales and promotion department, which operates as a unit.

In this sales and promotion department are seven service advisors, and this is the new form of service that has just recently been started in the Northern Division, and takes the place of the old sales representative plan.

These seven service advisors each have a district. They obtain new customers, answer rate or service complaints and inquiries, cooperate with dealers, demonstrate appliances, arrange and conduct group meetings of customers, sell merchandise, inventory customers' appliances, promote the use of service in all ways, attend sales office meetings as necessary, provide information for service connections.

If they happen to be in the field and are asked a question,

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"How can I get service?" they take care of if they are right 5138 there.

Then, in addition to those seven service advisors, there is one lighting advisor, who works with all of the salesmen. This lighting advisor cooperates with the service advisors, sells the better-lighting idea, prepares lighting and wiring lay-outs, lectures on lighting and better wiring, cooperates with contractors and architects.

There are also other employees in the sales and promotional division consisting of a customer servicer and demonstrator, who demonstrates appliances that have been sold in homes, and conducts group cooking meetings, and a cus- 5139 tomer servicer and demonstrator who attends to the display room care, keeps all service advisor records, prepares reports, issues and follows up routine sales department work to and from the advisors, assists in home or group demonstrations, arranges for delivery and installation of certain equipment which is sold.

Those ten individuals in the sales and promotional department are a unit in themselves, detached from the balance of the Company, except with respect to the furtherance of the general policies laid down by the home office.

5140 They operate, in this Northern Division, just as if there were no other connection with the outside world.

They take care of everything that should be taken care of in the line of sales promotional work.

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The third division we come to, which is under the direction of Messrs. Kuehlthau and Strodthoff, is that which relates to the installation of service and the maintenance thereof. There are two general foremen in this division, who
5141 report directly to the manager and assistant manager.

They in turn are responsible for an organization of 33 line foremen, linemen and ground men.

Of course, the number of that type of employees required depends upon whether you are in an expansion period and it is capable of being contracted; employees can be sent to other divisions if work is slack in this division.

In addition to the line foremen, linemen and ground men, there are six local agents.

These local agents carry out system operation as directed. They receive trouble calls. They inspect weekly street light-
5142 ing system records.

They also inspect the systems. They inspect sub-stations and large meters. They do collecting, supplementary meter reading, complaint investigating, remove and install meters, obtain change of name, set testing equipment, prepare orders to do minor work, gather information as requested, do miscellaneous appliance repair work, cooperate with service advisor and above all cooperate with the customer on the job.

By turning to the map you will note that there is a local agent at Elkhart Lake, where the solid red circle appears.

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There is another in the northwest corner of the territory at a place called Lomira, and another almost due east at Random Lake.

There is a fourth at Thiensville and still another at Menomonee Falls in the south central portion of the Northern Division.

In this general division of the Northern Division, which takes care of the installation of service and the maintenance thereof, there are also four trouble men, who are available for use around the division—one appliance repair man, three 5144
meter testers, an engineering clerk who takes care of all the information necessary of an engineering nature, which may finally have to go to the home office for record purposes or approval of long line extensions by the general engineering department, one storekeeper, four storekeeper helpers, who do work of loading the various trucks and a substantial amount of other work, and one janitor.

So you see we have another complete section of operators in this division, which is completely capable of taking care of the requirements of service extension and the maintenance thereof, entirely divorced, except that it has to follow the 5145
engineering principles laid down in connection with the construction of lines, and has to receive certain executive approval for expenditures over a certain amount.

That, generally, describes the skeleton organization of

a division of Wisconsin Gas & Electric Company.

Now, we can come back to your question, "Do the local problems vary?"

There is no hard and fast rule about what is local. Perhaps the best way to state the matter is that things that are

5146 done locally are the things that need doing locally, and I can assure you that they are done.

Perhaps we should go further in this description and pick out some small town and a customer therein that enables us to describe more definitely the problems of a local customer.

I mentioned to you a little village up in the northwestern part of the Northern Division, called Lomira. Lomira is a typical small city. There is a local agent located in it.

5147 It is a rural village on Highway 41, a stop on a railroad known as The Soo Line. It has some small industries. It is in a dairy center.

There is a brewery there, a small feed mill, a hatchery, a small sub-station of Wisconsin Gas & Electric Company.

The population in the 1930 census was 603. It is estimated now that the population has increased to 641. There are 258 customers.

The Lomira Electric Light & Power Company formerly operated there and was acquired by Wisconsin Gas & Electric Company at the end of 1917.

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I have given you the information with respect to that company. Mr. Schmidtman has given you details with respect to downward trend in rates that occurred in connection with a large number of small companies immediately upon acquisition, and the facts with respect to the village of Lomira are that a cost of 40 kilowatt hours to the customer on the system of the old Lomira Electric Light & Power Company, before acquisition, was $4.83, and promptly after acquisition, wa· $2.74—a reduction of 43 per cent.

Now, we have a local agent at Lomira, and his name is Elmer Waechter.

He is 32 years old. He has been with the Company for 12 years, including the time that he spent with the predecessor company—Wisconsin Public Utility Company at West Bend. It just so happens that the manager of that division—Mr. Kuehlthau—had Elmer as one of his employees when the Wisconsin Public Utility Company was operating.

So those men have found important places in what has long since ceased to be a relatively new order of things, 5150
under Wisconsin Gas & Electric Company, but they go along with substantially the same relations to each other.

Elmer has been in Lomira since September 1, 1933.

By Mr. Browning:

Q. He has been the agent there? A. And during that period he has been the local agent. —2,254—

(Discussion off the record.)

A. (Continuing) Mr. Waechter has charge, as a local agent, of the operations of 2,111 customers in the area which he 5151
covers, being the area in and around Lomira.

The Examiner: We will have a short recess.

(Whereupon a short recess was taken.)

The Examiner: You may proceed.

By Mr. Browning:

Q. How does this local agent take care of the customers in Lomira? A. Well, suppose we do this by example, and that means we need to get a typical customer, and let's call

5152 her the Widow Smith, or Mrs. Smith. The question is, What are Mrs. Smith's needs?

Assume Mrs. Smith applies for electric service, how does she get it? How does she find out about appliances? Whom does she contact in case of trouble? How does she get her bills and how does she pay them?

Well, Elmer is the answer to her prayer. Suppose that Mrs. Smith has never used electric service. She decides that it would be a nice thing to do away with the old-fashioned
5153 methods—oil lamps, coal ranges. She calls in Elmer, who has been there a long time, and takes him into her confidence.

—2,255—

Elmer finds out generally how much money she can spend for wiring and for appliances, and knowing that, he goes to work on the problem for her, because he is a joint maintenance and salesman looking out for the interests of the company. Under the new set-up with the service advisors, he asks the service advisors also to call on Mrs. Smith and corroborate his judgment and give her additional information which such service advisors have with them in catalogues and in their
5154 minds and that is done while Elmer is getting a wiring contractor to make a bid on the wiring.

Finally, after conferences with the service advisor, Mrs. Smith knows that she would like to have, say, an iron, washing machine, electric grill, good lighting throughout the house, small electric refrigerator, vacuum cleaner and miscellaneous things in accordance with her pocketbook.

The local wire man makes an estimate on the cost of the wiring and finally the wiring is installed. In the meantime, Elmer has made arrangements with the district office at West Bend and on the date that service is wanted, which is after

the wiring has been installed and has been officially accepted by state inspection, the line crew of the company appears on the scene in connection with a routed plan for the day of doing the necessary work.

Then they have work in Theresa, a few miles away and work in Lomira and work in some other point after they get through with Lomira. The work is routed and it is always

—2,256—

possible to have a sufficient amount of advance notice so that work can be routed sufficiently. 5156

In case of real trouble, Elmer is a line man and he can climb a pole and put in emergency service himself with a little help he can pick up around the village, but the whole philosophy of this divisional operation is to do things efficiently in places where they can be done effectively and cheaply so in this particular instance, the service comes from the line crew with headquarters at West Bend.

The meter is installed or can be installed by Elmer and we come to the point where a customer is all ready for service and there is nothing left to do except turn the switch. She has had made available to her services that are necessary in 5157 the proper selection of the type of apparatus she should get, the kind of wiring to be put in, without stirring outside of the village of Lomira.

If she doesn't want to buy an electric grill or washing machine without actually seeing a larger number of samples that can be found in the local store, arrangements are made frequently by the service advisors to take the parties in their automobiles back to West Bend but usually a customer can see something installed in another customer's premises and doesn't have to go very far.

5158 He says, "I want one like that." Some time or other, Mrs.

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Smith, after enjoying electric service, may have an outage. A fuse may blow in her home; something may happen due to a lightning storm that interrupts service. Now, how does she take care of that? Well, her first thought is of Elmer and she has Elmer's telephone number and she calls him and Elmer, being both educated as a trouble man and a line man is able to handle any minor trouble in the district.

5159 Of course, these troubles don't happen all at the same time. In case of very grave troubles due to an extensive sleet storm, then the entire resources of the divisional headquarters with all the trucks and the men are thrown into the work and service is restored practically as promptly as if that whole division was located at Lomira because with the hard concrete roads, there is very little travel time involved.

At least service is restored within all reasonable practical limits of time in which any customer could expect service to be restored and that is the test.

People are reasonable in those matters and their ideas of
5160 how quickly service should be restored are colored somewhat by the nature of the trouble that they can see visually.

Now, Mrs. Smith may have a complaint on her bill. The complaints are taken up to the service advisors that travel the territory or with the local agents and if it is necessary for the matter to be taken to the divisional office, that is taken care of entirely by these representatives who are local in the

—2,258—

field and Mrs. Smith does not have to go to West Bend in order to settle her complaints.

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The bills are mailed out of West Bend to Mrs. Smith and she can make payment at a local station or she can put it in an envelope and send it back to West Bend headquarters. In other words, Mrs. Smith enjoys local management, because all the contacts she needs and that she makes are handled locally. Now, there are other matters that are best handled in the district office.

We have pointed out some of those. To enumerate, for example, in the northern district office, we have the complete organization that handles the customers' accounts. We have 5162
the organization that extends the lines and services them. We have the sales office that takes care of all of the needs around the community.

These matters are handled in the district office or divisional office, as we call it, where there are no districts for the entire division, because they can best be handled there. Mrs. Smith would gain no advantage from having these matters handled more expensively in Lomira which can be better and more economically handled for the entire division in West Bend.

Still other matters are handled in the home office at Ra- 5163
cine. All of such work as the general sales department, which lays down the sales policies which are handled in the field; all of the general accounting work on the books, for example,

as distinguished from customer service accounting is handled at the home office at Racine; all of the general engineering work is handled at the Racine office for all of the divisions —gas, electric, heating, and transportation—and the general executive offices are located there, and they service the requirements of all of the operating divisions and utilities.

5164 The result is, as we have pointed out in previous testimony, substantial economies by spreading the efforts of the executives, the engineering department, general office division, the sales policy-making division, over all of the company. Obviously, Mrs. Smith would gain no advantage from the standpoint of service or rates from having these matters handled locally at tremendously increased costs.

She is blissfully unaware of such problems as depreciation accounting, reactance and capacity effects on trans-
5165 mission lines and the cost of a 90-day bank loan at a local bank. These are matters, of course, which ultimately reflect in the cost of service and redound to her benefit, but she is paying in her electric service bill an element of cost to see that these things are done right and there is no reason why she should be concerned with them.

The fact is that they are handled there at Racine because they can best be handled there.

There are some other matters that are handled in Milwaukee. For example, the work of the operating research bureau which has been described in previous testimony at
5166 —2,260—
some length, which does work for all of the companies.

There is a real estate department of Wisconsin Electric Power Company which does work for Wisconsin Gas & Electric Company. I remember seeing an order go through not long ago, asking that the real estate department, which was familiar with real estate matters in the territory served by Wisconsin Electric Power Company in Port Washington, obtain a right-of-way through the City of Port Washington, so that a high voltage Wisconsin Gas & Electric Company line could be built through the city to the terminals of the

sub-station adjacent to the power plant in order to ge a new source of power.

The real estate department of Wisconsin Electric Power Company was capable of doing that work cheaper and better than any representatives of Wisconsin Gas & Electric Company. Hence, the old test, Where can things be done cheaper and better? is applied.

We have at Milwaukee, an executive officer known as the president of Wisconsin Gas & Electric Company. We have two other vice presidents who are in the category of general 5168
executive officers. They are available for consultation and the fact is that Wisconsin Gas & Electric Company could not afford to pay the full time services of such men and the fact that they are available for such consulting services and are used at relatively small cost, just adds up the benefits which Mrs. Smith gets in Lomira. —2,261—

I think it must be obvious that such services as are performed in Milwaukee better than they can be performed for Wisconsin Gas & Electric Company elsewhere can not possibly detract from the local character of the management in Lomira. 5169

Still other matters are best handled outside of Wisconsin. For example, boilers for power plants can not be bought in Wisconsin. Western cedar poles, which grow in Idaho and on the Pacific slopes, have to come from without the state. A flotation of large bond issues for the properties must originate in the East. We can not buy boilers in Lomira or sell large bond issues there, but this fact does not detract one whit from the effectiveness of Elmer's local management.

The test on all these things is no geographical test, but where the matter can best be handled. By "best" we mean

5170 with maximum efficiency at lowest cost. This does not mean that the present arrangement is inflexible and final and not subject to change if and when changed conditions mean that something can be done better some other way at some other place.

On the contrary, we are always endeavoring to achieve important developments. We have an open mind. We can change our organization set-up any time.

I like to look at a divisional organization of Wisconsin
5171 Gas & Electric Company as being the ideal arrangement that we have made of the services required for these little companies. We have set down a local management in Lomira

—2,262—

where it is needed for their and surrounding territory. We have set down in West Bend the people who take care of the customer accounting business, the divisional sales offices, the men who take care of the extension of the lines and the maintenance of them, just as if he had the moulding of a new company in our hands. We can, in effect, mould it to our heart's desire by the mere change of the location of a local
5172 agent or a district office, and accomplish all of the things that are required for successful efficient service to the individual customer.

Both our customers' and our security holders' interests are to have such maximum efficiency at lowest cost. In the time that I have personally been with the property, since 1913, it has grown from an area of 305 square miles to 12,318 square miles, and the number of customers served has increased from 29,917 to 352,788.

The kilowatt hours sold to customers has increased from 62,732,315 kilowatt hours in 1913 to 1,317,564,313 kilowatt

hours per annum, but the problem is still essentially the same.

Where can the matter best be handled? That is our test. As my testimony shows, our history has been one of a combination of small companies, accompanied by improved service at lower cost.

We are, naturally, very proud of our results and we think

that we have good reasons for so being.

There are a substantial number of pioneer developments 5174
in the public utility field for which our group has been responsible. I want to just recite a few of these and I can do it because most of these results are what has been accomplished by either the whole organization or somebody other than myself. I think I would mention first, among the real fundamental benefits that have accrued through the efforts of our people, the use of pulverized coal as adapted to the central station industry.

Not long ago, when I was taking through the East Wells Street power plant, formerly known as the old Oneida power plant, a group of men who were interested in last securities 5175
issued that we got out, I pointed out to them a boiler that we had saved which bore a legend indicating that it was the first boiler to be operated by pulverized fuel in the world.

John Anderson, a canny and efficient Scotch engineer, originally conceived the idea of applying powdered fuel to boilers in the central station industry. Prior to that time, it had been thought that the use of pulverized fuel would do all sorts of damaging things to the brick work and other parts of the boiler, that it just couldn't be done.

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John was one of the types of individuals, of whom there are a lot in this country, who enjoy doing things that can't be done, and so he confided his hopes and aspirations to Mr.

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Way, and together they set their heads to work on the problem of pulverized fuel in the industry. The way they did that was to take an old boiler, the one I just referred to at the old Oneida Street power plant, and experiment, together with one of the manufacturers who made up various pieces
5177 of apparatus in accordance with their design, and to see what could be done. It was a long, long experiment, and about four years were used in the development of all the necessary auxiliaries required to pulverize the coal to the fineness of talcum powder, to blow it into the boilers and to ignite it and to have the heat pass through the boiler in the most efficient, effective manner so as not to destroy the brick work, so as not to form slag in the bottom of the boilers and so as to generally operate as a medium for the production of economical steam for power generation.

At the end of the war, you may recollect that there was
5178 a decided shortage in capacity of plants, business began to boom. With our company in particular we had to make a decision on short notice that a new plant had to be built; we had some four or more mortgages on the property of The Milwaukee Electric Railway & Light Company and we couldn't get the money from that source and finally the idea was developed of forming Wisconsin Electric Power Company to own the Lakeside Power Plant which in turn would be leased to The Milwaukee Electric Railway & Light Company.

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In connection with thoughts on that matter, Mr. Anderson and Mr. Way were giving a great deal of prayerful thought to whether or not they dared to risk putting up to the management of the company and the New York officers, the question of using powdered fuel in the new plant

They finally concluded that they should make such a recommendation, and one day there appeared at the New York office, Mr. John Anderson and Mr. S. B. Way, with the courage of their convictions and their recommendations that the new plant should be a powdered fuel plant, and they virtually staked their reputations and their jobs on the powdered 5180
fuel recommendation. I think it probably is putting it mildly to say that the men who heard them and who had not been close to this four years of experimentation were literally aghast that there was a new way and that they would recommend it to the extent that they did, but as time went on in the discussions, and it was shown that 20 per cent of the coal bill might be saved by this revolutionary process, the officers of the company in New York and The North American Company, which was really the one to risk its money, took the venture with these men who were risking their reputations 5181
and their jobs, and said, "We will back it up financially," and that was an epoch-making decision for the utility industry of this country.

It has saved millions of dollars. The story of how the first extension of the Lakeside Plant was begun late in February

and finished in December of the same year, bringing with it all of the new problems of design and the new form of burning coal, is an epoch-making action in itself.

5182 The plant was finished within a year, it operated satisfactorily, and since that time the central station industry has made tremendous strides, has saved millions of dollars to the everlasting credit, courage and perseverance of John Anderson and S. B. Way and The North American Company which made the experiment possible by putting out the money.

Q. Mr. Van Derzee, I don't think you mentioned where John Anderson came from. Was he brought to Milwaukee
5183 from Union Electric Company of Missouri? A. Yes. John Anderson was an engineer. He and Mr. Way were friends. Mr. Way, as I previously described, had been brought by The North American Company to Milwaukee Electric Railway & Light Company in 1911 and it wasn't long after that that Mr. Way arranged, through The North American Company, to release John Anderson from his work in St. Louis.

There were other collateral problems in steam generation which followed over the year, new developments which also have been revolutionary. The first installation of high pressure steam, 1,200 pounds pressure, at the Lakeside Plant, in-
5184 volved a great many new experimental problems.

The boiler worked from the very first minute it was put on the line and it was the initial and largest high pressure

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steam boiler to be first operated successfully.

There were some others that were being experimented with at the same time; they were smaller; and it was a matter of years in one instance, before such boilers were operated satisfactorily elsewhere.

The radiant superheater was a development that followed the development of powdered fuel, in which the walls of the

inside of the boiler can be lined in part with tubes carrying the steam and thus perform, by radiant heating of such tubes, the purposes of the superheater, and accomplish other functions of helping to maintain the boiler walls cool at the same time.

Some other developments in other fields include the three-truck train. That was an invention of Mr. Way, working with the engineers of rolling stock department. At that time, we had a number of single cars on the railway system that were getting old. Mr. Way's idea was that two of these cars 5186
would be reconstructed and rejuvenated and held together by a single truck in the center, and with a vestibule passage between the cars so that there would be large carrying capacity at the time of the peak loads.

(Discussion off the record.)

A. (Continuing) A great number of old cars that might otherwise have been put on the scrap heap were thus rejuvenated and the last of the two-car three-truck trains is just being disposed of. They have performed a very valuable service over a period of ten or fifteen years. 5187

—2,269—

At the present time, as I have testified, we are gradually changing over the rail lines, as we have money, to trackless trolley lines or gas bus lines, as the case may be. That does not necessarily mean that we now have in mind that all of the lines will eventually be changed from street car service to bus service, but it is likely that many more will be and that there will be continuous change.

In other fields, we have developments of Hevi Duty Electric Company with which our sales department has been in

close contact, concerning which I testified at length a few days ago. One of these is the vertical carburizer, the metal alloy ten, and another alloy twenty, which I did not describe in my previous testimony, but which is now being developed by that company, in the hopes that it will replace the present type of nichrome wire and range units as a medium which will stand higher temperature and have longer life and be cheaper.

Not long before I left Milwaukee, Mr. Post, our vice
5189 president in charge of power, took up with me two developments which he thought ought to be patented that Mr. Dornbrook and the engineers had worked on.

We concluded that the ideas were probably patentable and that we should take out patents on them. These ideas relate to a new form of de-aerator, taking air out of boiler feed-water, and a new improvement on a certain type of valve for power plant work. —2,270—

I have passed over a long period of experimentation which finally resulted in the issuance of American and British patents on a process of taking out of coal, gas which
5190 could be used as an illuminating gas, various residuals which have by-product value, and powdered coke which would be the end result to be burned under the boilers instead of powdered coal.

Experimental models were built and tried and the patent has been kept on ice awaiting a time that it might be used advantageously.

There are many other developments and improvements which have been made by our engineers in various fields, working with manufacturers, which we have not sought to patent.

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I remember one not long ago with respect to certain features of installing high pressure tubes in the boiler drum which we decided the manufacturer could patent if he would give us the right to use that improvement in design which we were really responsible for without the future royalties. This he readily agreed to.

Q. Will you tell us what is the Coffin Award? A. Probably the Coffin Award can best be described by giving the citation which Wisconsin Electric Power Company received last June at the annual convention of the Edison Electric 5192
Institute covering performances in the year 1938:

> "The Prize Awards Committee administers the Charles A. Coffin Award and it is now my privilege
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>
> to announce the winner of the 1938 award.
>
> "This award, established in 1922 by the General Electric Company as a tribute to the memory of the late Charles A. Coffin, founder of that company and one of the great leaders in the electrical industry, each year goes to that company which has made a 5193
> distinguished contribution to the development of the electric light and power industries for the convenience of the public and the benefit of the industry.
>
> "The winning of this award is considered a very great honor and distinction and it is deservedly the most highly prized award for which electric utilities can compete. The Committee of Judges this year were confronted with an unusually difficult task because of the excellence of the exhibits submitted for the award and the strong claims which each of the

six contesting companies was able to put forward to warrant its selection as winner.

"In reviewing the presentations, the judges have been definitely impressed with the splendid evidence of diligence and capable efforts to bring about improvements in service and to contribute benefits both to the public and to the industry.

"It gives me pleasure to announce the unanimous decision of the judges, consisting of Dr. Carl T. Comp-
5195 ton, president of Massachusetts Institute of Technology, A. C. Marshall, vice president and general man-
—2,272—
ager of Detroit-Edison Company, and your chairman of the Prize Awards Committee, which, for outstanding accomplishments during the year 1938, awards the Charles A. Coffin medal to the Wisconsin Electric Power Company.

"This company has made distinguished contributions to the technical development of this industry in efficiency, power generation and in power sales to
5196 the public.

"In 1938, Wisconsin Electric Power Company's combined generating plants produced electric energy at the remarkably low yearly average of 13,677 B. t. u. per kilowatt hour, and the yearly average for its low cost Port Washington generating station was only 10,788 B. t. u. per kilowatt hour, a world's record for this class of station.

"Efficiency in handling customers' accounts from meter reading to collecting has enabled the company to reduce the cost per bill to a remarkably low level.

"The company's record in the sale of power for industrial, commercial, domestic, and rural purposes, is outstanding. It has achieved most effective and satisfactory cooperation with dealers in electrical merchandise. The company has established good relations with the public, it has built up good employee relations and placed them on a sound basis. It has achieved an excellent safety record with no fatal accidents in a period of five years.

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"In 1938, the company effected a reorganization and refinancing plan which has placed it in a strong financial position and materially reduced its fixed charges. The public which this company serves has benefited greatly and will continue to benefit from its achievements.

"The industry likewise has benefited and will continue to do so."

The individual who is being quoted as delivering this citation and who was the third member of the committee 5199 was Mr. Liversidge, chairman of the Prize Awards Committee of the Edison Electric Institute Convention and president of the Philadelphia Electric Company.

It so happens that the receipt of the Coffin Award by one of our three companies was not the first time that our Wisconsin-Michigan group had been so honored. Prior to the time that the separation of the companies was made and the former Milwaukee Electric Railway & Light Company was in existence, that company received the companion award to the electric award from the American Transit Association for

5200 the same type of performance in the interests of the public in the transportation field.

Mr. Browning: Read the last answer please.

(Whereupon, the above recorded answer was read by the reporter.)

The Witness: Thus Wisconsin Electric Power Company and its predecessor constitute the only company

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5201 that has ever received the two awards.

By Mr. Browning:

Q. Has your group of companies received a further award while you have been testifying here? A. Yes. During the past week, the American Transit Association met at its annual convention and The Milwaukee Electric Railway & Transport Company received an award made by the Transit Journal.

The plaque which it received as evidence of this award reads as follows:

5202 "Maintenance award presented to The Milwaukee Electric Railway & Transport Company for its contribution to the improvement of maintenance policies in the transportation industry through participation in the Transit Journal maintenance contest of 1940.

Mr. Browning: This is a good stopping point.

The Examiner: Very well, we will recess until 2:00 o'clock.

(Whereupon, at 12:30 o'clock p. m., the hearing recessed until 2:00 o'clock p. m., the same day.)

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AFTERNOON SESSION

The Examiner: Let us resume.

Whereupon, GOULD W. VAN DERZEE resumed the stand and testified further as follows:

Direct Examination by Mr. Browning (Continued):

Q. You outlined this morning, in some detail, the principles and methods which you apply with respect to local 5204
management in the case of Wisconsin Gas and Electric Company. Are the same general principles and methods applied in the cases of Wisconsin Electric Power Company and Wisconsin Michigan Power Company? A. Yes, the same underlying principles apply. The actual operations differ somewhat. Wisconsin Michigan Power Company is more like Wisconsin Gas and Electric Company in its divisional operations. Wisconsin Electric Power Company is somewhat more compact but even that company has a large number of local agents who perform the same general character of work for customers as do the local agents in Wisconsin Gas and Elec- 5205
tric Company territory.

Q. You adapt the general principles to particular factual situations? A. We do. Always our endeavor is to do best locally what can best be done locally.

Q. Has The North American Company been of any assistance to your companies in their management problems? A.

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Yes, The North American Company has been of great assistance to our companies down through the years. With respect to financing matters we have always had at our disposal the

services of The North American staff. In financing we have availed ourselves completely of such service.

The North American officers have not only followed security markets and developments for us, but have usually planned and carried out most of our financing on down through the years. While we have helped from time to time locally, we do not pretend to keep in Milwaukee a financial staff such as The North American Company has.

There is only one Mr. Fogarty, only one Mr. Freeman,
5207 only one Mr. Piske, and only one of a number of other people who are skilled and have a high reputation in financial work in the New York office.

Q. Would the maintenance of a comparable financial staff in Milwaukee involve any additional expense to your companies? A. Well, obviously to maintain such a financial staff in Milwaukee would involve large additional expense because this field is a highly technical field. On account of the situation which has prevailed we therefore enjoy a considerable saving each year and the result is, as I testified recently, that the officers are free to do more on various
5208 operating properties and perhaps that has had something to do with the great technical developments that have resulted.

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Personally, I am only the general manager. I don't pretend to be an expert in general financial matters. If we were to set up a financial staff in Milwaukee we would not keep it busy on financial matters because we don't have enough of such problems.

I would like to give you one example of North American aid to us in financing and that relates to the Wisconsin Michigan Power Company merger in financing in 1927. I would

like to give this in detail because only by going through some of the details of a typical job of financing can a full appreciation be gained of just what help The North American Company has been on down through the years.

Mr. Buswell: What was the date of this financing?

The Witness: 1927.

The North American officers have developed and directed the program which resulted in the combination of the properties of 12 small companies with two larger companies in Wisconsin, and the upper peninsula of Michigan, the elimination of 13 of those corporate entities, leaving one financially stronger company, namely the Wisconsin Michigan Power Company. 5210

The power generating and transmission system owned by Wisconsin Michigan Power Company, upon consummation of the plan, was connected with the system of the Wisconsin Gas and Electric Company, and The Milwaukee Electric Railway and Light Company to the south, providing the exchange of power

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which has already been described.

To the many problems involved in effecting this desirable reorganization, questions of State laws, mortgage liens, elimination of outstanding preferred stock, transfer of assets and franchises and assumption of liabilities, merger of certain of the companies, creation of senior and junior security financing media; to all of these and others the answers were found by The North American Company.

5212 *Colloquy*

The plan as finally developed involved the acquisition by Peninsular Power Company of all the property, assets and franchises of six Michigan corporations operating electric utilities in the northern peninsula of Michigan, certain water power property on the Menominee River, known as Pemene Dam site, owned by Wisconsin Gas and Electric Company; a certain sub-station and adjacent property at Appleton, owned by Wisconsin General Railway, and certain property
5213 owned by Utility Realty Corporation; the merger by Peninsular Power Company of five Wisconsin corporations owning and operating electric utilities, utility property or water power property in Wisconsin, the creation of a new mortgage and the issuance thereunder of $5,000,000 of bonds, the issuance of $1,275,000 par value of six per cent. preferred stock, and $5,225,000 par value of common stock, of which $1,200,000 par value was exchanged for common stock then outstanding and owned by the holding company;

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5214 the merger of Wisconsin Traction, Light, Heat and Power Company, a Wisconsin Corporation owning and operating an extensive electric utility in the Fox River valley, and an electric railway system in and about Appleton.

The major companies in the group were two Wisconsin companies, Peninsular Power Company with total assets as of December 31, 1926, of over $6,800,000, and Wisconsin Traction, Light, Heat and Power Company, with total assets of over $9,300,000.

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Peninsular Power Company had no funded debt outstanding except $200,000, principal amount of eight per cent. serial notes, its $471,000 of outstanding bonds having been retired in November, 1926. It had $1,650,000 par value of seven per cent. preferred stock and $1,200,000 par value of common stock outstanding.

Under the plant, the charter of Peninsular Power Company was amended to provide for $13,000,000 par value of stock, of which $6,000,000 par value was pre- 5216
ferred stock issuable in series, and $7,000,000 par value of common stock.

The name of the company was changed to Wisconsin Michigan Power Company. Creation of this serial preferred stock provided a junior security financing medium which enabled the company to provide its financing requirements from that source from time to time.

Wisconsin Traction, Light, Heat and Power Company had outstanding $3,000,000 principal amount of

—2,280— 5217

first mortgage bonds due July 1, 1931, of which $1,500,000 bore five per cent. and $1,500,000 bore seven and one-half per cent. interest, in addition to its outstanding stock, all of which was acquired in part from the North American Edison Company by the Peninsular Power Company prior to merger.

Attention had been given by the officers of North American and officers of its Wisconsin subsidiaries for considerable time to the general situation from the end of 1925. A preliminary plan had contem-

plated acquisition of Wisconsin Traction, Light, Heat and Power Company by Wisconsin Gas and Electric Company.

In 1926 plans were prepared and several times revised, looking towards the merger of Wisconsin Traction, Light, Heat and Power Company by Peninsular Power Company. The major obstacle to any such merger was the existence of the Traction Company's mortgage, since it was felt by counsel that the
5219 lien of that mortgage might extend to the property of any company with which the Traction Company might be merged.

Because of the ten per cent. redemption premium on the Traction Company's bonds and the necessity of paying the additional interest on coupons to maturity, redemption of those bonds and the satisfaction of the mortgage were out of the question. After careful consideration it was concluded that a new first mortgage should be created for the Power Company prior to

5220 the merger.

Numerous intricate problems arose in effecting the consolidation of the companies involved. Under the State laws, Michigan corporations could not be merged with Wisconsin corporations. Accordingly, it was arranged to have Wisconsin Michigan Power Company acquire all of the property, assets and franchises of the Michigan corporations and assume their liabilities. The ownership of the stocks of the Wisconsin corporations was vested in Wisconsin Michigan Power Company.

Colloquy

Many questions of mortgage, bond and preferred stock redemption, franchises, etc., of the various companies, were sucessfully solved after many months of careful planning and intensive work. 5221

The holding company not only assisted in the solution of these questions but also assisted in the acquisition of some of the companies. A new mortgage was developed by the North American officers with counsel and reviewed by the Wisconsin Companies' officers and counsel. 5222

In addition to many general improvements over the Power and Traction Company's previous mortgages, such as being an open-end mortgage and mortgage providing for the issuance of bonds in series, it hurdled the problem arising from the existence of the Traction Company as a separate corporate entity and the spreading of the lien of that company's mortgage to the Power Company's property by including a covenant of the Power Company, within six months, to

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merge the Traction Company or acquire substantially 5223 all of its assets and thereupon to convey to the new mortgage trustee the Traction property in accordance with a supplemental indenture, the form of which was stipulated when the mortgage was executed.

The property owned by the Traction Company on June 14, 1927, so to be conveyed, was also specifically excluded from the term "property additions" as a further protection to bond holders, so that no additional bonds would be issued against that property,

5224 *Colloquy*

and provision was made that the Traction Company mortgage was not deemed to be an underlying mortgage until the Power Company should have conveyed the Traction Company property to the trustee of the new mortgage as above provided.

Certain property of Wisconsin Traction, Light, Heat and Power Company, on which a power plant of the Company was located, was not owned but was used pursuant to long-term lease with the Green Bay
5225 and Mississippi Canal Company. These leases were assigned to Wisconsin Michigan Power Company and then conveyed to the trustee of the new mortgage as further security for the bonds.

While the recording of a mortgage in public offices is normally a routine matter, the recording of the new mortgage and the supplemental indenture was a matter in which time was the essence. Counsel had advised that in order to avoid any question as to the lien

5226 of the Traction Company mortgage applying to the properties of the Power Company prior to the lien of its new mortgage, the new mortgage should be filed for record wherever necessary before the merger of the Traction Company had been effected.

Because of the softening of the bond market with the possibility of still further softening, because of the large amount of then recent security issues still undigested, the investment bankers wished to offer the new bonds at the earliest possible date in order to maintain the price agreed upon for their offering

to the public. If the offering had been postponed to a time which would make it impossible to sell the bonds at that price, because of market conditions, it would have been necessary to re-trade the price with the bankers or postpone the offering until the market would take the bonds at the original price, which was 99.

(Discussion off the record.)

A. (Continuing) It was necessary that the merger of all of 5228
the other properties be effected and properly recorded before the Traction Company was merged. Then that Company had to be merged and some more recording done, all preparatory to formal delivery of the bonds required to help finance the re-organization. Everything was in a hurry. The holding company did its part and the operating company finished the job.

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The time schedule was laid out by the North American officers and through minute men cooperation of the Wisconsin staff was successfully carried out in spite of the fact 5229
that ten counties in Wisconsin, in addition to the office of the Secretary of State, and five counties in Michigan, were involved and the Recorder's offices in the various counties were at remote and inaccessible points.

The mortgage and supplemental indenture were signed on behalf of the Company and the trustee in New York, on Saturday, June 25. That was in 1927.

The Holding Company dispatched 22 counterparts by messenger on a fast train. Within a minute after his

arrival in Milwaukee at 12:30 p. m., Sunday, June 26, men were speeding to the far-flung points with the result that the documents were received for record on June 27 at 8:00 a. m. in Oconto County, at 8:02 a: m. in Winnebago County, and had been received in all of the Wisconsin counties by shortly after 11:00 a. m.

A Directors' meeting was then held in Milwaukee to merge the Traction Company with the Power Company and a certificate of merger, recording such action, was rushed
5231 to Madison and filed with the Secretary of State. Promptly thereafter an additional supplemental indenture conveying the Traction Company property to the new mortgage trustee was executed in New York and rushed out to Lansing, Michigan, where it was required at a hearing to determine

the Michigan State mortgage tax before 10:00 a. m. on Wednesday, June 29.

After the hearing they were sped to Milwaukee and on to the County offices for recording.

The Holding Company had notably developed the plan of
5232 financing and advanced $7,800,000 to the Power Company and the Traction Company to enable the acquisition of the various properties involved and the redemption of the Power Company's preferred stock, and payment of certain of its indebtedness, but in order that the Power Company might have the benefit of issuing and selling $5,000,000 of its new bonds prior to an acquisition of the assets of the Traction Company, the Holding Company, North American Edison Company purchased the bonds forthwith and agreed with the investment bankers to resell the bonds to them at the same price after the acquisition of the Traction Company's

assets, the bankers being willing to buy at that price only after those assets had been acquired.

Under the mortgage covenant above referred to, the Power Company was required to acquire those assets within six months. However, under the time schedule worked out in New York, the merger was successfully consummated within two days after the mortgage was executed and within 10 days thereafter the bonds had been delivered to the investment bankers.

In furtherance of the improved financial structure of 5234

—2,286—

the Wisconsin Michigan Power Company, the plan also involved the creation of serial preferred stock, of which $1,275,000 par value of six per cent. series was purchased by the Holding Company, North American Edison Company, at par.

The serial preferred stock created by charter amendment in June of 1927, of which $6,000,000 par value was authorized by the amendment, provided a junior security financing medium which was effectively used for a long period of years. 5235

By Mr. Browning:

Q. Do your companies have any contacts with North American Executives on matters other than financing? A. Yes, they do. We are in constant contact and consultation with North American Company Executives. Some examples of which—a few may have been previously recited—include the recent and extensive conversations in New York concerning the advisability of Wisconsin Electric Power Com-

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pany proceeding to plan on 80,000 kilowatts of additional generating capacity.

We have had recent discussions on budgets and other accounting matters, on purchasing policies, and just at the present time conversations are going on with respect to handling problems that arise out of the Selective Service Act.

There are innumerable contacts of various kinds on all the phases of the business between the officers of our com-
5237 panies and the North American Company. Sometimes we get special help from them. The best instance of that is the time that Mr. Doolittle spent a number of months in Milwaukee about the year 1925 working on the so-called service

—2,287—

at cost contract.

That contract was an arrangement which was to be voted on at the referendum under which the voters would decide whether the city should make a contract with the Company covering service at costs. Mr. Doolittle has also been out with us on other occasions. One that I remember at which he
5238 stayed several days was early in 1938 when he acted as our witness in a hearing before the Public Service Commission on depreciation methods.

Q. Do your companies have contacts with other North American subsidiaries? A. Yes, we have direct contacts with other North American Company subsidiaries. We get general help from the pooling of technical information. One of the ways is through the inter-company committees, the Electrical Committee, Station Advisory Committee, the Accounting Committee, and the Committee of Purchasing Agents.

Q. Could you give us some examples of help which your companies have received through such sources? A. The experience of the other North American companies, that is, subsidiaries, has been valuable in connection with contemplated employment of outside forces for inspection and maintenance work. A few years ago when we were seriously considering employing a certain firm for bushing testing work on our sys-

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tem, we were influenced against contracting for such services by experiences of other companies with the same organiza- 5240
tion. Instead, we acquired equipment and assigned one of our own employees to testing work. We feel that the work being done with our own organization is effectively meeting operating requirements and the estimated savings is approximately $1500 per year.

Obviously this information we received was highly confidential and could only have been obtained from companies with which we were very closely associated.

As a result of inquiry on types of load-limiting resistors employed by other companies in starting rotary converters and the receipt of information from Cleveland regarding a 5241
satisfactory load-limiting resistor constructed in their own shops, we undertook the construction of such limiting load resistors with the result that we saved approximately $20,000 on one of them and we have since constructed five

A load-limiting resistor is a device consisting principally of resistance which is a necessary adjunct to a rotary converter if there is no battery connected with the system. When you have a rotary converter starting with no load and you endeavor to take load quickly without a load-limiting resistor, you get a flash-over in the rotary.

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The other companies have been of service to us in connection with extensive studies made from time to time on practices relative to reconditioning of transformer oil. Confidential information from other companies deterred us from installation of an activated alumina process for reclaiming and reducing acid content of transformer oil.

Figures on economies, which we compiled, suggested that if the equipment would function satisfactorily as claims made for it, we would be justified in making an investment of about
5243 $8,000.00 for the installation.

Due to the reporting unsatisfactory functioning of the process, where it was tried out in St. Louis, we did not go ahead with our proposed recommendations.

St. Louis' experience indicated that activated alumina process for reducing oil, acidity, gave good results for newly conditioned oil, but that after a few weeks in actual service, such conditioned oil showed a marked tendency to return to its original acid content.

As a result of experience of the various companies regarding frequency of inspection on certain construction practices
5244 on fault bus systems, we were prompted to make a detailed inspection of our own fault bus system at Lakeside. As a result of this inspection, certain connections and practices were discovered and changes made to improve the protection. These corrections eliminated possible failure of the fault bus

system to function as intended, with possible extensive damage to equipment.

The fault bus system is a general arrangement whose primary object is to trip out certain switches faster than they

might ordinarily trip out with another kind of trouble due to their delayed action timing.

Studies are sometimes prepared, incorporating the experience of all companies on certain matters. One such subject was Diesel power which was assembled by the Cleveland Electric Illuminating Company. Two reports were made entitled, "Diesel Engine Power Costs," and "Package Diesel Engine Costs."

Copies of these reports were turned over to our power sales department for use in competing with Diesel power. St. 5246
Louis developed a method of cleaning turbine blading with dry pulverized fuel, ash and air. This method does a very good job of cleaning turbine blading, being by far superior to sand blasting, as it does not mar or scratch the metal, but it creates a very unpleasant dust condition.

Milwaukee took the matter up at that point and experimented further by using water, pulverized fuel, ash and air. This was done by mixing the water and the pulverized fuel ash, in a tank by means of a mechanical agitator, thereby keeping the ash in suspension and then feeding this mixture into an air gun, and blowing it onto the surface of the turbine 5247
blades. Use of this method by the different companies brought further improvement.

—2,291—

Instead of a mechanical agitator, the air used is first blown through the tank containing the ash and the water, causing an agitation, and then feeding the complete mixture of water, ash and air to the nozzle used in spraying against the turbine blade.

All companies experience trouble with pulverized fuel in storage bins, becoming in a muddy state due to condensa-

5248 tion taking place. This caused clogging of feeders, thereby reducing boiler capacity. It also caused corrosion of steel work on the bunkers.

We found, on inspection of our own bunkers, that there was one of the main roof girders that was becoming quite seriously corroded on account of the moisture that had condensed in the pulverized fuel bin adjacent to this steel girder.

Cleveland devised a method that remedied this condition by insulating the bins. We, therefore, lined several of our
5249 bins with insulation, conducting tests, and from the result obtained from this have lined all of our pulverized fuel bins at Lakeside.

—2,292—

When the capacity of the roll type pulverizer mill is reduced by reason of the feed to the mill being reduced, there is a tendency of the rolls to strike the grinding ring creating a metal-to-metal contact.

Mr. Browning: Will you please read that last?

(Whereupon, the above recorded answer was
5250 read by the reporter.)

The Witness: You see, here is what happens, and I am illustrating with my hands. There is a grinding ring inside of the pulverizer mill and a set of rolls comes along on the inside and rolls on the interior grinding surface and powdered coal comes down between. (Indicating)

When there isn't very much powdered coal, I am trying to say that the roll impinges on the ring and obviously tends to wear it out and what the boys did was to get together on some form of restraining har-

ness which would keep the roll back at a time when there was not much of the pulverized coal flowing down to the ground and thus prevent the wear.

By Mr. Browning:

Q. You developed the solution for that difficulty in Milwaukee? A. Yes.

Q. And passed it on to the other subsidiaries? A. Yes. Recently, Potomac Electric Power Company orginated the plan of flow controls for contact heaters at the Buzzard 5252

Point Station. This is a different set-up than we have in any of our high pressure stations in that the heaters are tray type instead of tube type.

This diagram has been turned over to our engineering division to determine what advantages it might have over our installations and also what disadvantages there are in an installation of this kind.

These contact heaters are trays of feed-water, which comes in contact with live steam, whereas the ones that we are using are tubes with the water inside and the steam 5253 flowing over the outside. This diagram referred to relates to the method of controlling the flow of the steam over the water and there may be a good deal in it and we are trying to find that out.

Q. Will you tell us something about the accounting committee? A. About two months ago, or perhaps a little longer, the so-called budget sub-committee of the accounting committee of the subsidiaries of North American Company met in Milwaukee. Mr. John Dockendorf is the chairman

of the sub-committee and the general purpose of this committee meeting in Milwaukee as distinguished from meeting in one of the other properties was because Milwaukee has probably gone a little further than some of the other companies in its method of budget control.

I was very much interested in the meeting and am always much interested in budget control work, so I was asked to

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5255 address the meeting at its opening and I spent about three-quarters of an hour talking to the assembled group on the working functions of a budget, how you can really control the business, how the budgets ought to be devised, going down the line as far as possible, getting everybody interested in them, passing on the ideas up the line.

I think that a great deal of value is coming out of more intensive budget work. I mention this budget committee because I happen to have been present at it myself and because it is only one phase of the work which is being done by the accounting committee.

5256 On September 16, the entire committee known as the accounting committee, also met in Milwaukee and I had the pleasure of attending that meeting. There were present at the meeting Mr. A. H. Shettler, controller, Union Electric Company of Missouri; R. H. Smith, controller, Cleveland Electric Power Company.

Q. What is that name? Shouldn't that read Cleveland Electric Illuminating Company? A. Here it says Cleveland Electric Power Company. That is'nt right though.

Q. What company is it?

The Examiner: You intended to say "Illuminating Company" instead of "Electric Company"?

The Witness: Cleveland Electric Illuminating Company.

A. (Continuing) H. G. Haydon, controller, Electric Power —2,295—
Company; J. H. Keys, controller, Illinois-Iowa Power Company; F. M. Bocher, assistant treasurer, Kansas Power & Company; J. H. Keys, controller, Illinois-Iowa Power Company; 5258
F. M. Bocher, assistant treasurer, Kansas Power & Light Company; A. J. Bohl, controller, Wisconsin Electric Power Company; Linda Hollenbeck, chief accountant, Wisconsin Michigan Power Company; John Dockendorf, assistant research engineer, Wisconsin Electric Power Company, and also representing Wisconsin Gas & Electric Company of which he is an employee.

I think it is important to give you an idea of the subjects which were covered at this meeting. There were operating and construction budget discussions. The progress to date on the 1941 budget was gone into. The present plans of 5259
the subsidiaries are to make budgets for an entire year ahead.

We are now preparing those budgets for the year 1941.

The question of budget forms was also discussed. In that connection, there was conversation concerning the use of estimates of the Federal Reserve Index. The Federal Reserve Board Index is an index of industrial activity.

You hear it expressed as 120 or 124 or some other figure, which is issued by the Board and depends upon the industrial activity that has prevailed in accordance with the formula of the Board during the past month.

Several of the companies among the subsidiaries have very substantial amounts of industrial power and the use of industrial power varies quite generally with industrial activity. Hence, it is important that in preparing budgets for the future we have some idea from experts on what the Federal

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Reserve Board Index of Industrial Activity is likely to be, so we have obtained what we consider good counsel in that respect and it is the plan of the various companies to use a
5261 more or less uniform index of industrial activity in computing the estimated sales of industrial power in the budgets for the year 1941. There are, of course, situations peculiar to individual locations which may bring about a lag in business activity compared with a national boom, and those conditions are taken into account in applying the index to budget estimating in individual situations.

The subject of internal audits was discussed and under this heading the progress on organization of audit staffs was stressed. The audit staffs are being bolstered. Development of the audit program came in for considerable discussion and
5262 in this connection, the so-called flow diagrams or write-ups of departmental procedure were discussed.

Those are not the ordinary types of write-ups. Each department in each one of the companies is endeavoring to lay down these flow diagrams, the purpose of which is to chart the course of each financial transaction that originates in a department and which finally winds up on the books of the corporation, and when all of these are done, the so-called flow diagram descriptions will be used to see at what points audit work is necessary from time to time to best head off or catch any possibility of things going wrong.

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Another topic of discussion was the form of the president's monthly report to the Board of Directors, some details of which I have previously testified concerning.

Excess profits tax is another subject which was discussed, under the general headings "Necessity for Making Early Estimates," "Invested Capital Problems," "Desirability of having a Committee of Company Tax Experts meet to discuss the Problems," "Need for viewing every capital transaction in the light of the new tax law."

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Then construction overheads were discussed and the progress on the study of these overheads was enumerated by the different representatives.

There is a great variety of ways of handling construction overheads. What should interest during construction be? How should the general undistributed expense of the corporation be apportioned to capital monthly? And what items in the general undistributed groups should be used?

It is an important and helpful matter to have the counsel of all these representatives who are working on the same problems from different angles.

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Then, customers' accounting and collection expenses were reviewed. Since that subject first came up in an accounting meeting at which the system at Milwaukee was discussed, we have had several visits from a number of the different companies endeavoring to find out just what the process is. That

was described in the Coffin Award.

Sales promotion and general administrative expenses came in for their share of discussion to point out the differences in the costs of these groups of expenses between the different companies.

5266 *Gould W. Van Derzee—By Respondents—Direct*

Sometimes you think you are going along all right and that your expenses are at the proper level. When you come in contact with other companies that are doing about the same things and find that they do them cheaper and perhaps better, that is the time to look around.

The additional items which were up before the meeting, but which were not all of them wholly discussed to completion, were apportionment of stores to transportation expenses, reserve for extraordinary maintenance, spread of
5267 vacation expenses, handling of scrap materials, effect of selective service act on accounting organizations.

One of the interesting items in there is the spread of vacation expenses. We have been doing that in Milwaukee for a long time and it avoids having any large expenses on account of paying for vacations when there is no work done by our people during the summer time and each month there is a part of that yearly vacation expense that these men are allowed spread over the direct labor as an overhead.

I was particularly interested in the meeting of the accounting committee which I have just described and I made
5268 —2,299—
a point of talking to the representatives of each company.

I was very much impressed with the effectiveness of the meeting. While most, if not all of these companies attended other meetings of accounting organizations and societies, the great advantage of this kind of meeting is that each one is much interested in each other's topic, and each one has a chance to discuss the topic to a conclusion.

Questions can be asked freely and are answered without reticence. This is a far different thing from a formal society

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meeting where some formal papers are read to a much larger audience, with limited discussion and far less opportunity to question the speaker or to exchange detailed information as to current practices.

At the formal society meeting, much of the time is spent in listening to details which are interesting more to the speaker than to one's self, unless it just happens to click with the subject that you are very much interested in.

You have all been to meetings of that kind and you know that is a fact. One might attend meetings of professional 5270
accounting societies for a number of years and not cover even casually all the subjects that we discussed in two or three days of the meeting of the inter-company accounting committee which I have just described.

The value of such an inter-company meeting should be apparent when one realizes that here is that rarest of op-

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portunities, the opportunity to sit down for an extended period and talk shop with the fellows who are doing the identical work in companies with the same problems and all interested in directing their attention to the same subject at 5271
the same time and to reach a conclusion.

There is no doubt that there is always inertia operating against a change in methods and procedures. It is always easier to follow the old way and to think it is best. If the opportunity is not present where a man is matching his own methods against those of other competent experts, he is likely to not make changes to more logical or economical methods. The fundamental thing which makes all this possible is, of course, the community of financial interest and

the fact that it is a common stockholder who is suggesting that we discuss methods and procedures with the other companies.

No company is going to disregard a suggestion made by its principal stockholder. Whether or not the suggestion is ultimately accepted the subsidiary is certainly going to study the question thoroughly before reaching its decision and not pass it off as it might in the case of the same suggestion being made by some disinterested third party.

5273 I have given only a few examples, but we have received assistance in many other such operating questions. The result of such committee activities is to make available to each company in The North American System the experience,

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knowledge and ability of the engineering and operating staffs of all companies. It would be out of the question for any one company to maintain a separate or outside engineering staff comparable to this.

Q. Have you visited another subsidiary? A. Mr. Coffin, now our vice president in charge of sales, and then the sales
5274 manager, and I and Mr. LaPorte in charge of customers' accounts in 1927 visited the Union Electric Light——

(Discussion off the record.)

Mr. Binford: I object to any prompting of the witness as to the correct name of the company.

Mr. Browning: Mr. Examiner, may we call for the Commission's Exhibit which shows the corporate charts?

The Examiner: Yes.

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Mr. Hamilton: Are we off the record?

The Examiner: Off the record now.

(Discussion off the record.)

The Examiner: Let the record show that that chart is produced. Now go ahead, Mr. Browning.

Mr. Browning: I would like for the witness to complete his answer.

The Witness: I would like to add to my incompleted sentence, where I hesitated to recollect the name of the company I visited, the words, "& Power Company."

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Mr. Binford: Mr. Examiner, with respect to my last previous objection, I wish to withdraw any objection to the prompting by counsel for Respondents of the witness in respect to the names of these affiliated companies, but, of course, where such prompting is done, I will request that it appear of record that it is done.

The Examiner: Off the record now.

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(Discussion off the record.)

Mr. Browning: I would like the record to show that all I was endeavoring to do was to verify whether the exact corporate name was being used correctly and simply in the interests of greater accuracy in the record and I submit, Mr. Examiner, that nothing is to be gained by minor errors in the names of companies.

The Examiner: Well, let's go ahead and try to get along.

5278 *By Mr. Browning:*

Q. The company which you were describing owned the property now owned by Union Electric Company of Missouri and was the subsidiary of The North American Company at that time? A. Yes. The interesting thing about the visit to St. Louis to see Mr. C. E. Michel, sales manager, and the accounting people, was that we had been informed that St. Louis had the lowest customer accounting costs on the system.

5279 Hence, we wanted to find out just what caused these low customer accounting costs. We had a very pleasant stay there, as I recollect, and gained considerable information on

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St. Louis methods with respect to customer billing and also with respect to sales matters.

A commentary on this situation is that just about the week before I left to come to Washington on this trip, St. Louis was up to our office, having heard about the Coffin Award and knowing about our accounting results, to see how we got that way.

5280 Q. Could you give us another example of such a visit? A. Mr. Schmidtman went to Cleveland in 1934, for three weeks on the municipal plant situation. A number of articles had appeared in one of the Milwaukee papers which we didn't think were quite correct concerning the matter of the Cleveland plant and we wanted to get at the facts.

We were received in Cleveland in very fine style and were given a great deal of information which was more or less confidential to the company with respect to the affairs of the municipal plant.

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Q. Have you borrowed personnel from another North American subsidiary? A. We have. The management of The Milwaukee Electric Railway & Light Company, in planning its promotional activities at the beginning of 1919, had decided that it would be a great benefit to its electric service customers and a substantial help to its load-building program, if it modernized its merchandise sales quarters and facilities

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for the merchandising of electrical appliances, portable lamps and other equipment, and engaged in a somewhat broader merchandising program.

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The Milwaukee company needed some expert counsel in this undertaking and inasmuch as the Union Electric Light & Power Company of St. Louis had a merchandising manager of broad experience and reputation, who had successfully achieved and expanded the merchandising program of that company, arrangements were made through the offices of The North American Company for the St. Louis company to loan the services of its merchandising manager to the Milwaukee company on a part-time basis.

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The manager of the merchandising department of the Union Electric Light & Power Company, therefore, visited Milwaukee early in 1919 and made a complete survey of the merchandising operations of the Milwaukee Company.

The results of this investigation included the recommendation that the merchandising quarters of the Milwaukee Company be rebuilt at an initial cost of approximately $50,000.00 and that a comprehensive program be adopted for the merchandising of electrical appliances and portable lamps.

Previous to this survey, the entire merchandising volume of the Milwaukee company had been of the magnitude of

$330,000 a year. The management of the Milwaukee company decided to adopt the recommendations of the survey and arranged with the management of the Union Electric Light & Power Company for the merchandising manager of the latter

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company to assume direct supervision of the reconstruction work in Milwaukee and the establishment of the enlarged merchandising program.

Mr. Michel spent one-third of his time in Milwaukee and
5285 carried on the supervisory functions there in addition to his work with the Union Electric Light & Power Company.

The St. Louis merchandising manager retained supervision of the Milwaukee merchandising operations until nearly the middle of 1924. By that time the merchandising volume of the Milwaukee company for electrical appliances and portable lamps alone had been increased over $800,000.00 a year and the total merchandising volume had been increased over $1,200,000.00. The merchandising profit of the Milwaukee company had been increased from approximately $30,000.00 a year to over $100,000.00 a year. In addition
5286 to this, the improved merchandising facilities and methods of the Milwaukee company greatly stimulated such merchandising by electrical dealers in the Milwaukee area. Thus a period of broad merchandising activity of electrical appliances, lamps and other types of electrical equipment was started in Milwaukee which has constantly expanded and continued throughout the years up to the present time.

This merchandising program has been one of the largest contributing factors in bringing about the average annual consumption of Milwaukee residential customers, an increase from 303 kilowatts in 1918 to 1060 kilowatt hours per cus-

tomer per annum for the year 1939 with corresponding reduc-

—2,306—

tion in the average residential rate to customers from 6.6 cents to 3.01 cents average in 1939. And I say that that increase is still going on during the current year.

The last figures which I saw for August were of the order of about 1116 kilowatt hours per customer average. I, personally, spent a great deal of time with Mr. Michel and can say from my own experience that we received great value from his merchandising ability. 5288

Mr. Michel has made a great showing in St. Louis and we were glad that we were a subsidiary so that the inconvenience that went along with losing him at St. Louis could be overlooked and he be made available to us.

Q. In these cases, do the other subsidiaries of The North American Company place themselves at your disposal? A. They place themselves entirely at our disposal as we do with other men that come to us from other subsidiaries because we know that it is desired that there be this exchange of more or less confidential information and experiences.

Such general interchange of intimate information and 5289 special work done on inquiries could exist only within a group bound closely together by common stock ownership. We could not ask such information or help from others nor would we give it to others.

An example of intimate information and information which we have recently received is the case of an inquiry

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I made of Mr. Shea, the president of The North American Company not long ago, when we were buying a new 80,000

5290 kilowatt turbine. I wanted to check from all possible sources what some other current prices were for turbines.

Mr. Shea gave the inquiry to Mr. Moody, assistant to the president, and he personally got in contact with Mr. Neal at Washington and with the Cleveland company—I think that was all. The result was, however, that we secured, very promptly, some intimate information that dealt with what had been paid for turbines of the same general characteristics as those that we were about to buy and considerably for-
5291 tified us in willingness to accept the final price that we got on the turbine. As a matter of fact, the information that we received was helpful in actually gaining a reduction in price.

Q. Could you give us an example of special work which your companies have done on the inquiry or affairs of another North American Company subsidiary? A. At the request of Mr. Edwin Gruhl——

Q. (Interposing) Who was he? A. (Continuing) ——who was president of The North American Company until his death in the early part of the last decade—my recollection is that his request came in 1931—certain studies were made
5292 by our operating research bureau with respect to the Baltimore tie-line and preliminary report was made dated January 2, 1932.

Evidently, Mr. Gruhl wished to get the views of our company with respect to the facts that he was able to transmit to us. Subsequently, North American Company furnished more factual background and there was a further report from Milwaukee dated March 15, 1932.

This last report was at the request of Mr. Doolittle to Mr. Way. I do not claim that Milwaukee laid out the final

program, but I do claim that we were asked early in the game to make a report and I am certain that we wouldn't have been asked if it hadn't been for at least one party to the negotiations, which was an affiliate, and we would have been disinclined to make such a report if there had not been a community of interest.

Q. I don't believe that you have identified the Baltimore tie-line. You meant by that the line connecting Baltimore to what other company? A. Potomac Company.

Q. Of what city? A. Washington. 5294

Q. Have you furnished personnel to other system companies? A. We have furnished much personnel to other system companies. One example is Mr. Harvey Steinhoff, head draftsman of the mechanical division of Wisconsin Electric Power Company. He was transferred to The North American Light & Power Company group and became the

head mechanical engineer for the design of stations at Jefferson City, Missouri, Des Moines, Iowa, and many other locations.

Mr. Steinhoff was able to carry to those companies the 5295 long training and experience at Milwaukee, with resultant benefit to the associated companies.

Under no circumstances—and I say this rather strongly because we have had to plug the gap left by Mr. Steinhoff over the several years he has been gone—under no circumstances would the company have permitted Mr. Steinhoff to leave for work with non-associated companies, assuming that his services could be retained.

Q. Do you have any element of competition with the other North American subsidiaries? A. We are always competing

5296 with the other North American subsidiaries in costs and efficiency. We are keenly aware of this competition and it puts us on our mettle.

As a practical matter, we have no such feeling with respect to outside companies, and it is due to the close system relationship. I mentioned a few minutes ago about the St. Louis company paying a return visit to Milwaukee to see how our billing costs were so low and when Mr. LaPorte told me the result of the visit and that he thought the boys were
5297 going to catch up, I said to LaPorte, "Are they actually going to catch up with you?" and he looked at me and winked and said, "Leave it to me."

—2,310—

Common ownership or financial interest is the vital bond. If we did not have such committee work and general interchange of information with other North American subsidiaries and the family competition with them, important operating results would disappear.

As a practical matter, such work would not be kept up if the holding company relation were severed. This is shown
5298 by the fact that, however friendly we may be with other independent companies, we have no such activities with other independent companies.

Here is the Milwaukee Gas Light Company right in our own home town. We have no such relations with the Milwaukee Gas Light Company. True, it is in another business, but one would assume that there would be lots of problems that would come.

Q. You are in the gas business, as a matter of fact? A. We are in Racine.

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We believe we are doing a good job, but that we can always learn from others. There is an inherent danger of stagnation, particularly in a business such as ours, if we stay by ourselves. This constant contact with other North American subsidiaries is what we need to keep us on our toes.

The Examiner: Let us have a little recess.

(Whereupon a short recess was taken.)

By Mr. Browning:

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Q. Now, will you summarize for us the relations of your

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company with The North American Company? A. As shown by the testimony here, our staff is mostly local, consisting of individuals whose life background and education have all been local.

For example, you have noted the large number of our employees who have been referred to as having their education at the University of Wisconsin. As a result, our companies have a strong local flavor and we are distinctly part of the local community.

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We do all things locally that need doing locally. In the last analysis, our companies are operated by their boards of directors or, as in the case of Wisconsin Electric Power Company, by its executive committee, which again are local in character. They actually make the decisions and operate the businesses.

At the same time, we are now and have long been in constant talks and consultation with the executives of The North American Company. Officers of The North American Company have spent many months in Milwaukee.

For example, the reference to Messrs. Gruhl and Doolittle. There was a time when Mr. Gruhl was assistant to the president and later, before his death, he spent a great deal of time in Milwaukee working with our conditions.

Our officers have gone to New York for conferences on an average of more than once a month. We, ourselves, have furnished or provided the training ground for various members of the North American staff. For example, Messrs. Gruhl,

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5303 Doolittle and recently Mr. R. E. Moody, assistant to the president. We were extremely sorry to lose Mr. Moody. He was the top operating executive of Wisconsin Gas & Electric Company and Wisconsin Michigan Power Company in the position of executive vice president, but he had this opportunity and we were glad to see him get it.

Thus, North American staff has an intimate background against which they can discuss our problems.

These conferences with North American Company are of great value to us because, in the last analysis, everyone works for someone else and is responsible to someone else. We work

5304 for our stockholders, we want their views, and to share the responsibility of various decisions with them. This would be impossible with widely scattered stockholders with small stockholdings but it is possible with The North American Company. They make very real contributions to our management because of their knowledge of other comparable utility properties, and this, combined with their intimate knowledge of our properties, enables them to give us the benefit of broader experience and knowledge and they have a more detached and objective viewpoint because they are further away from a particular problem and can see more clearly the

relative importance of the various factors entering into the decision.

I have noted that on a number of occasions, when we go

—2,313—

down there with something, we are all hepped up over some particular phase of it that to them doesn't seem important at all and when, having the thing reviewed in a broader sense by a number of our associates there, we, too, see that perhaps we have gone off on the wrong foot.

Thus, North American Company represents to us real 5306
friends and counselors and a staff to lean on. We know that we can also go to them for help and assistance. The value of the association can not be measured in dollars but is of tremendous value.

To take one example, Edwin Gruhl's insistence in 1932, that we issue $5,000,000 more of bonds than we had contemplated issuing. I remember that situation very well and with my more limited viewpoint from the financial field, I talked with Mr. Way about why borrow more money than it looks as if we actually needed to refinance the outstanding bond issue and some immediate needs, but Gruhl, in his 5307
broader vision—and he was a man of great vision and initiative—saw that there were some times ahead that would make it very convenient to have money in times of depression.

This money actually gave us the funds to go through the depression and, in my opinion, literally meant thousands of dollars, in fact, hundreds of thousands of dollars, to us in savings on account of the lower price at which we could build the Port Washington plant through the depression.

—2,314—

5308 There are many other instances where the help was just as important, although hard to measure. For example, North American Company sent Mr. Way to Milwaukee from St. Louis. I would hesitate to try to put a dollar value on Mr. Way's services down through the years to the Milwaukee company and, incidentally, The North American Company, but the testimony that I have given obviously makes it a tremendous figure.

Our financial task has been and will be especially difficult
5309 in Milwaukee because of the obsolescence which struck the street railway and interurban property. This makes our financing problems particularly difficult.

In the past, The North American Company, has, itself, loaned us money or advice and carried out financing plans. We need this help in the future. For example, our present construction program, the one that we are starting with the 80,000 kilowatt unit, has been started because of needs in connection with preparedness and we can't tell you at this time exactly how the matter is going to be financed, but we have had the assistance and the encouragement of The North
5310 American Company to go ahead and make the commitments.

We can go ahead and we have done so without actually having the money, as I have stated. Thus, we have a very real need for the holding company financial aid in the future.

There is a great difference between The North American Company and the ordinary stockholder. As a practical matter, we get nothing out of an ordinary stockholder in

the way of advice. The ordinary stockholder, naturally, hasn't either the time, ability or facilities to participate actively in the affairs of our company.

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It requires a stockholder like The North American Company with tremendous investment in our companies to be able to do so. I have been to stockholders' meetings in the past when one man would turn out who happened to be a stockholder of the company.

They are, naturally, not interested when things are going well. The association with The North American Company has meant a tremendous amount to us in the past, including great savings, and will mean much to us in the future.

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Mr. Browning: That is all.

Mr. Binford: It is about six minutes before four, at the present time. The cross examination will obviously consume more than three-quarters of an hour. I would like to suggest that we recess until 10:00 o'clock tomorrow morning.

The Examiner: Well, I think that is a reasonable request. I hear no objection to it?

Mr. Browning: I have no objection.

The Examiner: We will recess until tomorrow morning at 10:00 o'clock.

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(Whereupon, at 3:50 o'clock p. m., the hearing recessed until 10:00 o'clock a. m., Wednesday, October 2, 1940.) —2,316—

5314

BEFORE THE

Securities and Exchange Commission

Docket No. 59-10

IN THE MATTER

of

THE NORTH AMERICAN COMPANY, *et al.*

5315

Hearing Room 1101,
Securities and Exchange Commission Building,
Washington, D. C.,
Wednesday, October 2, 1940.

5316

Met, pursuant to adjournment, at 10:00 o'clock a. m.

Before: W. W. SWIFT, *Trial Examiner.*

Appearances:

S. PEARCE BROWNING, JR., and CHARLES S. HAMILTON, JR., of Sullivan & Cromwell, 48 Wall Street, New York City, Attorneys for the Respondents.

RALPH C. BINFORD, Attorney on behalf of the Securities and Exchange Commission.

PROCEEDINGS

The Examiner: The hearing will come to order. Before the cross examination of Mr. Van Derzee starts, I will dispose of the motion to strike which I have under advisement. I have reviewed the witness Mr. Van Derzee's qualifications as set forth in this record and, while they are notable in his sphere of operations and extend over a period of many years, I am not convinced that they have been acquired in the field of operations nor that they are of the type which render him 5318
capable to express an opinion as a witness on the matters embraced in the question to which objection was made.

Motion to strike the question and answer appearing at the top of page 2214 of the transcript is granted.

Mr. Browning: May we have an exception?

The Examiner: Yes. I am glad for you to take that. In case I am wrong, the error can be corrected.

Mr. Van Derzee: Off the record, please.

The Examiner: Yes, off the record.

(Discussion off the record.)

The Examiner: You may proceed with cross examination, 5319
Mr. Binford.

Whereupon, GOULD W. VAN DERZEE resumed the stand and testified further as follows:

—2,318—

Cross Examination by Mr. Binford:

Q. Mr. Van Derzee, in the early part of your testimony on direct examination, you stated at some length your experience in the utility field and your educational qualifications as an engineer.

I presume you have, of course, kept up your contacts with engineering subjects in general along the lines of electric public utilities during all of your active working life? A. Those are things that you absorb by experience in your every-day contacts with your associates in the company.

Q. But you endeavor, I presume, and have endeavored to keep in touch as far as feasible with all general developments in that field that might affect your own particular business, is that true? A. I endeavor to keep up to date on things.
5321 I have contacts with our vice president in charge of power and at our various staff meetings, of course, we talk about developments in the industry.

Q. And you have a highly trained staff part of the duties of which, I assume, are to keep in touch with developments which might be of interest or of value to your own particular business, is that true? A. Yes, they endeavor to keep on top of the field. They usually do it by ideas which they, in the main, originate themselves.

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Q. But you don't mean to say that they do not endeavor
5322 to keep themselves abreast of current developments by other independent companies? A. Oh, by no means. With respect to developments, I don't know they are, particularly, with respect to independent companies. They read the magazines; they go to the inter-company meetings of The North American group; they absorb information from many sources. You are not always conscious where you absorb it from.

Q. Would you say they are always on the alert to absorb, from whatever source it might come, such news of developments and advancements in the industry as might reach them? A. They always have their ears open. A recent de-

velopment in fluorescent lighting, for example, by the manufacturers, is of considerable interest to the utilities. Immediately we had caucuses about the effect of that type of development by the manufacturers on power factor of our system load. The average fluorescent lamp, for example, has a power factor of about 55 per cent inherently.

It was necessary to add capacitors. It was necessary to contact the manufacturers to see that they realized that problem. They are in the business of selling lamps. We are in the business of using them. It was an important development 5324
such as the type I indicated and our ears were open to that, so

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we took the very necessary means of incorporating in our rules which we filed with the Commission that such lamps must have a power factor of at least 90 per cent unless they are in the form of small signs in which event, if they have a less capacity than 250 watts, they may have a power factor of 85 per cent. I think that is a very typical case of keeping our ears open to developments in the industry.

It is pretty hard unless one were wholly deaf not to have heard of that very important development. It almost ranks 5325
with the incandescent lamp.

Q. So you would not blacklist, as it were, an innovation which might have possibilities of economy of operation or other possibilities for benefiting your service, because it might have originated with, let us say, a company of the Electric Bond & Share System rather than of The North American Company System? A. We never blacklist anything. We always have our ears open. The type of development which I have just described was not originated by a

company, but by a manufacturer. Personally, I don't know of any particular underlying developments which have come from what you call independent companies. There may be some.

Q. By "independent companies," I presently mean companies not in The North American Company System. You know of no developments in the industry that have originated with any company outside of The North American System?

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5327 A. In the field of sales I think the Commonwealth and Southern Company developed the objective rate idea, but I wouldn't use it on a bet. Our ten-for-one plan in my opinion is so far ahead of it that there is no comparison.

Q. Can you name another development outside of The North American Company system which pertains to the industry? A. The Hartford Electric Light Company has been for many years experimenting with a mercury boiler directly under the General Electric Company auspices but I don't know anybody that can use it.

Q. Why is that that no one can use it? It hasn't been
5328 perfected? A. I think it is too expensive and hasn't been perfected down through the years.

Q. Can you think of a third example of a development in the industry which originated outside of The North American System? A. My impression is—I am not certain that that development originated with the Hartford Company. The General Electric Company experimented with them on it. From my latest information they are still experimenting.

Possibly future generations may get some benefit from it. It is very hard to say whether such things as the use of very high voltages for transmission such as are used from Boulder

Dam are products of the engineers of large companies or a joint product of utility companies and the manufacturers.

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I very distinctly find it difficult to recall epoch-making inventions of other companies.

Q. You do strive, however, to keep abreast of the possibility of such things happening, don't you? A. I think it is entirely possible that they may happen and quite likely that things come to the attention of some of our engineers that are examined and found wanting for some reason or 5330 another and not brought to me for any executive action.

Q. Then, you are unable to recall at this time any development in the art under consideration which originated outside of The North American Company System, is that true, and which is in use by your company or any of your companies? A. At the moment, they don't come readily to mind. I could, after thinking about the problem, and going through the field of generation, transmission and distribution, utilization, sales, perhaps recall more than I have. I won't say that none have ever come to my attention, but if they have, they have passed out of my immediate consciousness. 5331

Q. You don't recall ever adopting any plan that originated outside of The North American System? By "plan" I mean innovation or change for betterment of service, improvement of the industry. A. I can't tell you just where the use of alternating current in downtown districts developed, or whether our engineers were thinking about it at the

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same time as others. That didn't impress me at the moment you asked the questions as being an outstanding develop-

5332 ment because we had used practically that same system for some little time, fully ten or fifteen years before the adoption in downtown Milwaukee.

The four-wire A. C. distribution system was used by the old Commonwealth Power Company which I recited our company absorbed many years ago. So I wouldn't say that that idea came from the outside. The man that developed it as engineer of the Commonwealth Power Company, was a man that gained his previous experience as an electrical
5333 engineer with our company.

In the field of generation, the important things of powdered fuel, high pressure steam, were practically original products with our company.

Q. Mr. Edison was never connected with your company? Mr. Thomas A. Edison was never connected with your company, was he? By "your company," in this case, I mean The North American Company System. A. Only indirectly through license agreements called "Edison Electric Company licenses" which we took out with the early General Electric Company. Mr. Edison, I think, assigned those patents to
5334 the General Electric Company and we became licensees and years ago got special discounts on account of that relationship.

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Q. What technical journals are received by your companies? A. We take about four copies of the Electrical World, copies of Power and several other magazines which are circulated among people interested. We don't go in for these club offers of nearly all the technical journals because after a good deal of consideration of the subject, we don't believe it is worthwhile.

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Repeatedly the McGraw interests are after me to take ten, fifteen, twenty-five or fifty copies of something and give it to groups of engineers because in their opinion that is the only way they can keep abreast of the times.

We have enough copies so that what does happen on the outside comes to their attention.

Q. Do you personally ever visit the properties of operating public utility companies which are not in The North American group for the purpose of observing their methods or for any other reason? A. I will try to think of the last 5336
time that I visited a company not in The North American group. I think the last time was when I was in Chicago a year or so ago, working on the Committee of Judges who were judging the Forbes' Public Relations Prize for the best paper from any company on public relations.

After that meeting, I visited someone in the Commonwealth Power Company for a few minutes.

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Q. That is the latest occasion that you recall? A. I think he showed us at that time the room which they had just refitted with new lighting. If I pass through a city for 5337
any reason and see an operating office, I go in and talk to the clerks, see what they are doing in a merchandise way, but I can't tell you where I had such contact last. I think it was when I drove by the windows of the Madison Gas & Electric Company. I stopped in there and talked to Mr. St. John, president, on an undertaking that we had jointly with the University of Wisconsin, to establish a new practice cottage for home economics students. I think that is about the last contact I had with another public utility.

5338 Q. When was that? A. That was the early part of August this year. I went out there specifically to talk to him about the practice cottage.

Q. You didn't, at that time, other than as a purely corollary matter, discuss with him the operating experiences in his plant and in his transmission and in his distribution systems? A. I asked him how he was getting along with his proposed interconnection with Wisconsin Power & Light Company and he said fairly well.

5339 Q. You knew of the proposed interconnection? A. Yes, I did.

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Q. You keep in touch to that extent with the activities of other companies? A. Well, the reason that I came in contact with that was that we have, as stated by Mr. Schmidtman, an interconnection agreement with Wisconsin Power & Light Company, and Mr. Neff had told me that in any new agreement he made with Madison Gas & Electric Company, he expected to renew that interconnection arrangement.

Q. You stated Mr. Schmidtman's position with your
5340 group of companies. Would you mind stating it again please? A. He is with the operating research bureau, working on technical problems in a special investigating division.

Q. How long has he occupied that position? A. I can't tell you just when he became head of it but it has been for a number of years. He is under assistant operating research engineer who has other divisions under him, as I testified, and the operating research engineers who are assistants report to Mr. Seybold who is research engineer as well as vice president.

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Q. Of course, upon direct examination for the purpose of the record, as was reasonable, you used notes which served to refresh your recollection on numerous matters, did you not? A. I did.

(Discussion off the record.)

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By Mr. Binford:

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Q. Since you have been in Washington during the course of this hearing, I presume you have visited the plants or offices of Potomac Electric Power Company, one of The North American Company subsidiaries, is that true? A. Well, the facts are that I came down here with Mrs. Van Derzee and I had taken my vacation without her earlier in the year in California. I think that answers why I haven't been able to go through plants of the Potomac Electric Power Company, much as I would have liked to, but to make up for that part, on account of the natural review of various things, which is proper so as not to unnecessarily lengthen the investigation, we asked Mr. Neal to visit us last night to try to make up for our visit and he came to our rooms.

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Q. Have you ever visited the plants or any of the plants of the Potomac Electric Power Company? A. No, I haven't. Until my recent visits here, I have not been in Washington but once before.

Q. You testified yesterday, I believe, that on one occasion you made a trip to Cleveland in connection with certain matters more particularly described in your testimony at that time. At that time, did you visit the plants or any of the plants of the Cleveland Electric Illuminating Company?

5344 A. My recollection of my testimony is that I did not testify that I had been to Cleveland, but I did testify that I went

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to St. Louis to visit what was then known as the Union Electric Light & Power Company.

Q. Sorry. A. At that time I went through plants of the company.

Q. And that was in the year 1926 or '27? A. 1927.

Q. You haven't visited those plants or that company since
5345 that time? A. That is right.

Q. Have you ever visited the plants or any of the plants of the Cleveland Electric Illuminating Company? A. Never have.

Q. Have you ever been to Cleveland other than to pass through? A. I have never been to Cleveland to my recollection except to pass through.

Q. Have you ever visited any of the plants of any of the companies of The North American Company System other than those of the three companies with which you are at present connected? A. None except the plants of the Union
5346 Electric Light & Power Company.

Q. And that only upon the one occasion which you have previously mentioned? A. That is correct. We do not, in the first place, have as much time as we would like from the

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operating affairs of our own company to go visiting. We have engineers and vice presidents who make it more of a point to see the properties. We have a field in Wisconsin, which is rather large, and takes considerable time to keep acquainted with it, but the mere fact that I don't go person-

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ally to various plants, doesn't mean that I am wholly ignorant of the practices as reflected back to me as a result of the inter-company meetings and correspondence that I have from time to time with the companies.

Q. Is your knowledge sufficient to compare the personnel and divisional and district set-up of your group of companies with that of the Cleveland Electric Illuminating Company? A. I wouldn't care to testify the way I have with respect to the organization of my own company as to the detailed organization of the other companies.

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I can tell you what was said to me, for example, very recently by Mr. Dornbrook, chief engineer of power plants in the regular correspondence, reporting to Mr. Post and me, things that have happened elsewhere, that did relate to the plant operations of the Cleveland Electric Illuminating Company.

Q. My question was directed to the divisional personnel set-up. A. May I continue?

Q. Yes, sir. A. And he said that the men in the plant

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organization of the Cleveland Electric Illuminating Company were able, because of the historical background of employment and things that they do, to do a great many more operations individually than our men were, who were highly specialized and also had certain restrictions as to their going from one kind of work to another on account of the unionization.

We were discussing the advantages of the Cleveland Electric Illuminating set-up from a labor standpoint—a highly confidential thing that I wouldn't care to have expressed

5350 *Gould W. Van Derzee—By Respondents—Cross*

elsewhere, but typical of the kind of things that we do get through the route of these inter-company committees.

I, of course, know that different companies have presidents, vice presidents, and the usual officers, but as to the exact duties of each of them, I have had no particular need to know their precise scope, because with respect to that, we have found a method, we think, that operates well with us. We are always willing to learn and do take advantage of information that comes, such as this piece that I recently
5351 mentioned through Mr. Dornbrook we are going back to our unions to see if there is some way, when a man changes work from one classification to another, that he can do it in a more convenient way than having charged so many cents per hour for five hours on this job and a different rate with the remaining hours on another job.

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Q. Despite the fact that you have never personally been to Cleveland, as I understand it, you know, of your own general knowledge, that the area served by Cleveland Electric Illuminating Company is far different, in the character of
5352 its customers, than the area served by your group of companies, in that Cleveland is a highly industrial area, whereas the areas, speaking generally, served by your three companies, represent to a large extent residential and rural customers? A. Well, I don't know, as a fact, the inference that you make that our territory, as a whole, is largely residential and rural.

I do know that what we call the service area for the group of three companies, is probably a larger area than served by Cleveland Electric Illuminating Company, but that, with re-

spect to the territory of Wisconsin Electric Power Company, we have a very highly industrialized area—the greater Milwaukee district, which has many of the characteristics of the area served by Cleveland Electric Illuminating Company.

We have a large steel industry; we have breweries. In spite of the fact that Milwaukee has such a reputation in that respect, the manufactur of beer has never been first in the total output; it has always been exceeded by steel.

We also have a very substantial textile industry, food processing, and altogether, at the peak of industrial activity 5354

in the greater Milwaukee area, the output of products was estimated, by the Association of Commerce, at nearly a billion dollars.

Now, you can't get a billion dollars worth of products output in a substantially residential and rural area. It is true that we have had a very remarkable development of rural customers, but that has come about because we have taken the bull by the horns and run lines up and down practically every highway of Wisconsin Gas & Electric Company, and quite extensively, but not to the same extent, in the rural 5355 areas of Wisconsin Michigan Power Company.

Incidentally, we probably have more rural customers than the others, on that account.

Perhaps they are not as fully developed, from the standpoint of lines, as we are, and if they were they would have more rural customers by comparison.

I would say generally, though, in answer to your question, that we have a problem that is quite similar to Cleveland in the greater Milwaukee area.

5356 We are not as large as Cleveland, but we are affected because of the ups and downs of industrial power in somewhat the same way.

How do I know that? Because I have weekly before me, sent by The North American Company, the relationships of output that I have testified to.

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Q. Are you familiar with the distribution and the transmission systems of the Potomac Electric Power Company?

5357 A. I have never had occasion personally to study those systems.

I have no doubt that the member on our electrical committee of the inter-companies, and Mr. Post, vice president in charge of power, are probably quite familiar with the details of it.

I have no particular occasion to be concerned with the precise size of pole tags, for example, although, in taking a walk behind the hotel yesterday, I did examine specifically a pole tag of Potomac Electric Power Company. It is much larger than ours. The figures are raised considerably more.

5358 I looked up at the pole and observed the type of construction, how they guy it, and there was nothing particular in that observation that impressed me one way or the other.

They have a type of distribution system that is probably more or less common knowledge to anyone who wants to observe it.

Q. But you have never had occasion to observe it? A. I wasn't informed that it was particularly unique. I think they have more underground than we have. I have observed the slot in between the rails of the transportation system, and that is an underground method of distribution of railway

energy that we don't have to have in Milwaukee—wouldn't

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have it if we could.

Q. You weren't present during any of the testimony in this case which related specifically to the Potomac Electric Power Company and its subsidiaries, and its and their operations, were you? A. No, I was not.

Mr. Browning: Will you please read that last question? 5360

(Whereupon the last question, as above recorded, was read by the reporter.)

The Witness: No, I wasn't, but if I had occasion to find out something, I know, from my acquaintanceship with Mr. Neal, that all I would have to do would be to come down here and Mr. Neal would just go to great lengths to show me anything I wanted to know, and give me every detail that I needed.

The fact that I don't need those details is not an evidence of lack of interest. 5361

By Mr. Binford:

Q. Have you read that testimony, to which I referred? A. No, I have not.

Q. You were likewise not present when the testimony was given in this case, specifically relating to Cleveland Electric Illuminating Company and its operations, were you? A. No, I was not.

Q. Have you read that testimony? A. No, I haven't.

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5362 Q. Your experience in the actual field of electric public utility operation has been confined exclusively, has it not, to the territory now served by the three companies with which you are at present connected? A. That is correct. Direct operating experience. There was one position I failed to indicate, in giving the details of my qualifications:

I worked on an underground gang, putting in an underground conduit, in Milwaukee, for a number of months, if that is of any value in indicating I know what a conduit
5363 looks like and what it feels like to be in a ditch.

Q. Have you ever had any contact with any state regulatory bodies, by which I mean bodies exercising regulatory power over electric public utilities, in any states other than Wisconsin and Michigan? A. No, I have had no direct contact with bodies regulating public utilities in any other states than Wisconsin and Michigan.

Q. You make no claim to personal knowledge, as to factors which influence the decisions of such bodies, other than in those two states? A. I lay claim to knowledge of a good many underlying principles, which those bodies must have in
5364 mind in making decisions. That is, factors relating to the basic principles of rate-making, depreciation, property ac-

counting, the basis on which securities are issued, but I have never sat in their councils nor do I know the exact mental processes that they have gone through.

With respect to the latter two comments, I can't say that even with respect to the Wisconsin Commission or the Michigan Commission.

Q. I believe you testified, in substance, that at one time the operating research bureau of Wisconsin Electric Power

Company made a study of and preliminary report concerning the interconnection of Potomac Electric Power Company with Consolidated Gas & Electric Company of Baltimore, is that correct? A. I made a statement which, I would like to add, contains my complete knowledge of the fact that reports were asked for by representatives of The North American Company, based on preliminary information that they sent, and then some subsequently expanded information, which was worked up into reports that The North American Company used in some way, concerning a tie line which I 5366
had never seen and know nothing about.

Q. Do you know who had charge of that investigation? A. No, I don't. That was eight or ten years ago. My feeling is that the normal arrangement for a report of that nature would be that Mr. Seybold would handle it himself.

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Q. Mr. Schmidtman would have nothing to do with it? A. I can't say as to whether Mr. Schmidtman was in the field, of that particular division he heads now, at that time or not. I really don't know.

Q. What would be Mr. Schmidtman's rank in that division, if I may speak of rank in that connection? Would you 5367
consider him, possibly, the second or third highest man in the bureau? A. The organization is like this: Mr. Seybold still retains the position of research engineer. He has three assistant research engineers. Under one of them is the work of Mr. Schmidtman.

(Discussion off the record.)

Q. Will you please glance at Respondents' Exhibit No. 41, which is the organization chart of Wisconsin Electric Power Company?

5368 I call your attention to Page numbered 3 of that chart, in which, in the operating research bureau, there is shown a "special investigation division", of which Mr. E. H. Schmidtman is supervisor.

How long has that special investigation division been in existence? A. For some time, but I do not recollect how long.

Q. Would you say whether it has existed for ten years or more? A. I would say that it has not existed for ten years.

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5369 This particular arrangement has developed in connection with the appointment of additional research engineers from time to time, and one of those was appointed within the last two or three years, and at that time I think there was a rearrangement of the specific duties.

Q. Should an investigation be made at the present time, of the type involved in your earlier consideration, of the connection between Potomac Electric Power Company and The Consolidated Gas & Electric Company of Baltimore, would such an investigation fall within the province of this special investigation division shown upon the chart, which is Re-

5370 spondents' Exhibit No. 41? A. I am inclined to think that it might, because Mr. Schmidtman, during the past three or four years, has gained a good deal of experience in connection with his statewide study of interconnections that he made.

Actually, the way in which a highly technical problem of that kind would be handled is about like this:

The research bureau would probably be assigned to the preparation and consolidation of material prepared both by the research bureau and also by the electrical engineer of the Company. In such a thing, I believe that he would also be consulted.

Q. At the time that the actual report and investigation was made upon this subject, was the position of Mr. Schmidtman in the operating research bureau such that he would

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normally have at least known of the making of such investigation and the making of such report? A. He might have known it was in the shop. I really can't tell you whether he knew anything other than that.

Q. As a matter of course he would know that, though, would he not? A. I think he would be likely to know that 5372 there was an investigation in the shop. I didn't receive the original inquiry in this matter from the officers of The North American Company, and I have a very hazy recollection of what the flow of instructions was.

I really had no occasion to know about it or remember it but it is a fine example of the Company having put itself out, with no immediate return, just because it was, in effect, helping out a sister company.

Q. You say "the Company having put itself out". Do you consider that there was an outlay of money involved in anything of that kind? A. I don't know that there was any 5373 out of pocket expense, but I know that somebody had to spend time, and it is very likely that if the X. Y. Z. Company had asked us to do it, we would have said, "Sorry; we are too busy."

Q. You had to spend the salaries and the overhead, though, isn't that true? A. I don't think they donated their

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services.

Q. At least it isn't usual, is it?

(No answer.)

5374 Q. As an engineer, are you familiar with developments in recent years of interconnections for the exchange of power between diversely owned electric utilities throughout the country? A. I know that there are interconnections, but I haven't charged my mind with learning about them. I am familiar with some in Wisconsin that have direct effect on our companies.

I know, for example, that Wisconsin Power & Light Company, with which we have an interchange contract, at one
5375 time, I believe, had an arrangement with some interests in Illinois, by which emergency power could flow, but I don't know the details of any outside inter-company contract.

Q. While you may not know the details of the contract, you do know that such interchange arrangements exist and are in operation, and have been so for some years, do you not? A. Well broadly speaking, I know that there are interconnections, but if you say do I know that there is an interconnection between Point X and Y? I can't say that there is such an interconnection without looking it up.

Q. You don't know the general manner in which such in-
5376 terconnections and interchange of power takes place? A.

Well, I know from our own experience the manner in which the interchange of power takes place between our own companies and between other companies in our state; whether those arrangements are the same, whether the contract is motivated by the same basic reasons, I can't tell you.

I can't tell you a single detail, much as I would like to respond to your question about the exact locations of other interconnections or the basic reasons therefor, outside of the fact that it is presumed to effect economies and advantages.

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Q. You don't know of any company outside of your own group, whose source of power is mainly from water power, which has an interconnection with a company or companies whose sources of power are primarily from steam? A. I don't know whether you could class Wisconsin Power & Light Company in that category or not. They have a substantial amount of water power.

They also have a substantial amount of steam. They have an interconnection with us, meaning Wisconsin Electric Power Company.

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But, outside of the state, I can't give you precise information on that.

I know that Pacific Gas & Electric Company has a very substantial amount of water power, and I believe that their steam plants are relatively unimportant.

With whom they are connected I can't say. I have no par-

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ticular reason for knowing that precise type of information.

Q. Have you testified as to what proportion of the electric business done in the state of Wisconsin is done by the three electric utility operating companies in your group? A. No, I have not.

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Q. Could you state approximately what is? A. Generally speaking we have a phrase that may give you an idea on that, which is not exact, and that is that the North American group do approximately one half of the electric and gas business in the state of Wisconsin.

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Q. Is that then far more than is done by any other affiliated group in Wisconsin? A. Yes. The next largest com-

5380 pany is Wisconsin Power and Light Company and then comes Wisconsin Public Service Company and Northern States Power Company. I don't recollect precisely their relationships but there is no other company or group of companies that does as large a business as is done by our group in the service area.

Q. Then, in magnitude, at least, there is no situation in Wisconsin from which you could draw any practical conclusions of benefit as to the situations in your own three
5381 companies, is that true?

Mr. Browning: May we have that question read back?

(Pending question was read back.)

The Witness: I don't think I understand the question. Can you explain what it intended to say?

Mr. Binford: Perhaps you had better read it again.

(Pending question read again.)

Mr. Browning: I suggest that the question should
5382 be rephrased.

The Examiner: Try it over again. Can't you rephrase it? I don't quite understand it.

By Mr. Binford:

Q. Let me state the question another way. From what you have said, it is apparent, is it not, that the other public

utility operations in Wisconsin, taken individually, are so much smaller than those of The North American group that you can't benefit much from their experiences in your own

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situation, is that true? A. Don't you mean that we can't benefit much from interchange with them because they don't have capacity of sufficient magnitude to help us out much on an interchange?

Q. No, that isn't what I meant. I won't press that question any further. If Wisconsin Michigan Power Company should be divorced in ownership from the interests that own the Wisconsin Electric Power Company, you are unable to state, I take it, from your experiences in that field, and from any source other than your own knowledge of the situation, that a satisfactory interchange of power agreement might not be worked out between those two companies? A. If Wisconsin Michigan Power Company were divorced, as you say, from any family relationship with Wisconsin Electric Power Company, and were thereby forced to dispose of its surplus hydro-electric energy to a buyer who would look at the proposal entirely from the standpoint of immediate benefits, I am certain that the arrangement for thus disposing of the hydro-electric power surplus would be considerably less satisfactory to Wisconsin Michigan Power Company operating alone——

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Q. But it follows—pardon me. A. —than it is now.

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You are probably not familiar with the fact that there is no other market for the large amounts of surplus hydro-electric energy that comes down from the north when the rivers run high than the power pool, so to speak, that is created by the existence of these large industries on the system of Wisconsin Electric Power Company, and that the result would be that a very substantial amount of the natural resources would go to waste.

Now, I don't mean to indicate to you that we could not have a contract with an outsider or that smaller amounts of energy might not be taken when, as and if we found it really convenient to take it. That is really what dump hydro-electric energy is but I do say very definitely and it isn't necessary for me to know at all what the XYZ Company does in Indiana, that the arrangement would not be as good, even though we could make an arrangement.

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Q. You base that upon your own knowledge of that particular territory and the particular relations existing between the companies? A. I base it on my own knowledge of the specific problem which is the one we are discussing. The fact is that our steam power plant engineers come to me at quite frequent intervals and tell me of the situation which is created by dumping a lot of hydro-electric energy on the company when they don't want to take it, but they take it to avoid an economic loss to the family without immediate loss, perhaps, but with some, to them, which is more than made up for at other times.

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Q. The security holders of Wisconsin Michigan Power Company are not identical with the security holders of Wisconsin Electric Power Company, are they? A. No, they are not.

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Q. Then what did you mean when, in answer to the last question, you spoke of the family relationship? A. I spoke of the family relationship in that the common stock of Wisconsin Michigan Power Company is wholly owned by The North American Company and most of the common stock of Wisconsin Electric Power Company is owned by The North American Company.

The fact that there are some other common stockholders at the present time makes it difficult to state that they are in all respects identical and that is the reason that I did not say that the common stockholders were identical.

Q. Then is it your thought that in dealings between two companies, despite the fact that the assets of these two companies represent the investments of distinctly different groups of people, it is perfectly proper management to think only of the interest of the whole, that is to say of the two jointly without distinction, if some person has enough common stock to achieve control of each of the two companies, whatever may be the detriment to the one company on an occasion or the detriment to the other upon another occas- 5390

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ion? A. We don't consider that there is any detriment to any stockholder in this operation.

Q. But yet you consider—— A. We do not consider the interests of one particular stockholder as compared with another. We do consider, within each company, the interests of the corporation and when I work for my company I am considering the most effective and efficient means over the 5391 long pull to bring about the best service to the customers at most reasonable rates and I know that if we do that and work diligently that benefits will flow to stockholders of the one company and also to the other.

I happen to be an officer of each company, although I am not the head operating officer of Wisconsin Michigan Power Company. Now, in the case that we are talking about the thing that I said in connection with your question had this general intent, that if Wisconsin Michigan Power Company were wholly separate from Wisconsin Electric Power Com-

5392 pany and that company came to us like Wisconsin Power and Light Company has, and said, "We would like to make an interchange agreement", we might make an interchange agreement quite similar to that for dump power which we have now, although I think we might make some changes.

Q. In other words—— A. I am not through. The rate is 1½ mills per kilowatt hour. The point is, however, that

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even though we might have identical arrangements in the
5393 two contracts, one where there is a family interest and the other where there is no family interest—I am not saying we would have them identical but just assuming they are—then the method of operation under those contracts is subject to very wide interpretation and latitude on the part of the Wisconsin Electric Power Company.

In the present case hydro-electric energy comes down at a time when it may not be most convenient to take it, yet it does represent an economic loss if it is not taken and if we take it our normal margin that we may have figured that we got by taking it and not burning coal is reduced
5394 and might be eliminated entirely for a short time.

Now, in the case that exists now, where there is a community of interest, we take that power and the fact that we take it does not throw any burden on the stockholders of Wisconsin Electric Power Company because the momentary loss on a few kilowatt hours, if there is any, is infinitesimal.

Take the case of Wisconsin Michigan Power Company, an independent company, calling us up when we have got only 20,000 kw. night load and saying, "We are going to dump 15,000 kw. on you if you can take it." What I mean to say is that at such times we would not be likely to inconvenience

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ourselves if there is inconvenience or reduce the margin of profit in the exchange, or suffer an extremely small momentary loss to be made up later by taking large quantities

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when we can use it. It gets down to there being a family relationship that does not exist when two companies are separate and as to stockholders experiencing any particular effect from variations in the amount of value from time to time I don't think you can find it as far as Wisconsin Electric Power Company is concerned to any great extent.

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Q. Yet you don't think that such a result could be achieved by what is quite often spoken of as arm's length bargaining between independent parties? A. I have testified that we could go so far, and we have with Wisconsin Power and Light Company, as to make a form of agreement and such an agreement could be achieved, but I say that we would not go as far otherwise as we might in the case of companies which are divorced as we are willing to when it is in the family.

Q. As a matter of fact, don't certain other potential customers exist for the excess power of Wisconsin Michigan, such for instance, as certain subsidiaries of the Standard Gas and Electric System? A. Not for dump power, according to my understanding of the situation; they have plenty of their own.

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Q. Possibly not for dump power alone but if dump power were not required to be taken alone, but power other than dump power, firm power, were at times furnished, couldn't such an arrangement be perfected, possibly? A. Well, I

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5398 can't speak for the managements of other companies. Wisconsin Public Service that you speak of evidently finds need for additional power because I read just recently that they are putting in a new steam plant addition at Green Bay. I think it must be obvious that if they could readily get that power from some other place and the character of power that is sent down to us for dump could be disposed of to them for firm power by some magic, that Wisconsin Michigan would immediately take them up on it and they would
5399 use it.

The facts are that it isn't usable in the form it comes down to us.

Q. There is no insurmountable geographical difficulty in the interconnection of Wisconsin properties with the properties of other utilities than the Wisconsin Electric Power Company, is there? A. I know of no insurmountable difficulties with respect to physical connection of the lines of one company with the other by the expenditure of certain amounts of money.

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5400 Q. Wouldn't you go even further and say that such an interconnection would be perfectly feasible if desirable? A. The determination of a matter of that kind calls for my knowledge of the things that are going on in the mind of Wisconsin Public Service Company, and I can't predict that any more than I could what was in the minds of the Commissioners.

Q. I would restrict the question to feasible from a cost standpoint and technical standpoint. A. I have made no study of the problem. I wouldn't want to express an opinion without making a study.

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Q. You wouldn't want to express an absolute opinion that it was not technically and economically feasible, would you? A. I would not care to make a statement that it would be impossible to build a line from point A on the system of Wisconsin Michigan Power Company to point B on the system of the Wisconsin Public Service Company, but as to whether it would be of any value when the line was built, I am unable to say.

The Examiner: Let us have a little recess.

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(Whereupon a short recess was taken.)

By Mr. Binford:

Q. Mr. Van Derzee, you described at some length yesterday on direct examination, a recent meeting of one of The North American System inter-company committees, the accounting committee I believe it was. Did you, personally, attend that committee meeting? A. As I testified, I ap-

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peared at that meeting. I was there for quite awhile. I could not stay all the time because I had a call from the 5403
office and I was back and forth, but I did this: We had three representatives there and in addition to the parts that I saw directly and the talks that I had with the men directly, I got reports on everything that went on. I am thoroughly familiar with what did go on. I attended the meeting.

Q. Your testimony yesterday was based upon notes made by you from your attendance at the meeting and from reports given to you by others from their attendance, is that true? A. That is true. I failed to state, in giving the names

of those who were there, that Mr. P. D. Preger, controller of The North American Company, was present, and Mr. Thurston, the auditor of the company was also there, and that the meeting was really under the direction of Mr. Preger.

The origination of this accounting committee idea was with Mr. Shea of The North American Company, and when I attended the meeting of operating executives of the subsidiaries several months ago in New York—I don't remember the exact date—it may have been the latter part of May or it may
5405 have been in June—he stated that such good results had come from the other two committees that he wanted to start immediately an accounting committee for the interchange of information and practices among the subsidiaries which

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would work with the same facility and freedom of expression of thoughts and confidential information as the other committees worked.

Q. Which were the others—pardon me. A. The first meeting of the committee was then held at New York and then followed the meeting of the subcommittee which handles
5406 budget matters, which I attended at Milwaukee, as indicated in my testimony, and then followed the meeting of September 16.

Mr. Preger was there and had a good deal to do with the direction of the meeting and I am sorry I omitted to say that he and Mr. Thurston were there.

Mr. Browning: Who is Mr. Thurston?

The Witness: Mr. Thurston, I testified, was the auditor of The North American Company, and it was Mr. Thurston who was so much interested in the sub-

ject of audits which was one of the chapters for discussion.

Mr. Thurston, I think, had the original idea of creating these flow diagrams which show the passage of any accounting transaction from the originating department down to the books.

By Mr. Binford:

Q. From your observations, at the meetings of this committee, I understand it to be your opinion that the activities 5408
of the committee promise considerable benefit to the several subsidiary companies in The North American system. Is

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that correct? A. It is my opinion that such benefits will result.

Q. What were the other committees which you mentioned as to inter-company committees within The North American Company system? A. I testified to the existence of the station advisory operating committee and the electrical committee.

Q. Have you ever attended a meeting of either one of those 5409
committees? A. No, I never have, but I have received reports from our vice president in charge of power and on various matters that have come up through those committees.

Some of my testimony——

Q. (Interposing) What was the last meeting of either one of those committees, or do you know? A. I can't tell you the exact date. Usually, Mr. Frost and Mr. Dornbrook discuss important features that come up in the meetings with me; obtaining those discussions and listening to their opin-

5410 ions as to the relative merits of things that are discussed such as I indicated in the testimony, is more or less a regular part of our business and I don't attempt to record in my mind the date I had the last discussion, but frequently Mr. Post says, "I would like to have Mr. Dornbrook go to this inter-company meeting. I don't want him to miss it. Have you anything that would interfere with his going?" Usually, I

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say, "no that is about as important a thing as he has to at-
5411 tend."

Q. Usually, about how much time does that take? A. Well, usually, Mr. Dornbrook not only goes to the meetings but if the meeting happens to be in Cleveland or Potomac, he spends a little time looking around the property. As a rule he is gone two or three days or some such figure, or even longer, depending upon how much outside work there is in those companies.

Q. Did you state how long this September 16 meeting of the accounting committee lasted? A. From the beginning of the arrival of the individuals to the departure of the last
5412 one, I think it was about two and a half days.

Q. That was the first or the second formal meeting since the organization of the committee? A. That was the second formal meeting of the committee as a whole, but its subcommittee on budgets had met and that was rather a large meeting.

Q. When did that occur, as nearly as you can place it? A. I testified to that having occurred a couple of months ago and it met in Milwaukee and I attended it. I told you the reason why I attended it.

Q. Yes. And the organization meeting; that is to say, the first meeting of the committee, after, I understand, the

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suggestion of Mr. Shea occurred—that was about when? A. I would say it was within a month or six weeks after the meeting of the executives of the subsidiary companies in New York.

Q. What was that date, then? A. I stated to you I didn't recollect exactly, but I think it was in the latter part of May or June. I can look it up for you if it is important. 5414

Q. So this committee has been created and these intercompany activities have been begun since the instigation of the present proceedings? A. I don't know what you mean by "the present proceedings."

Q. This case in which you are now testifying. A. Well, I couldn't say as to that. I didn't know when you began.

Mr. Browning: I suggest that the record will show that.

Mr. Binford: I acquiesce.

By Mr. Binford: 5415

Q. So far as you know, since the creation of the present committee, the same problems which it was designed to aid have existed, have they not? A. Some of the problems that I mentioned that were discussed at the meeting were current problems. For example, the question of how does the selective service act affect accounting matters. I think that also a gradual consciousness of the need for further perfection

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in auditing work as well as in all other work has been there.

5416 We had auditing work sometime ago. Price, Waterhouse & Company has indicated to us ways and means from time to time in which it could be effected. We have tried to follow those suggestions. We have made real progress in that type of work, but now comes a new face into the picture in the form of Mr. Thurston who has had a great deal of experience. He suggests that we ought to make these flow diagrams. Perhaps we have been making them unconsciously in doing auditing work because of our very intimate knowl-
5417 edge of how a transaction does flow from the source to the books, but he doesn't know that, so he wants to see.

Hence, we engage in an activity that puts on paper the thing that may be wholly in the minds of the controllers. That is one of the activities. We have, naturally, had interchange from time to time, but not on the present scale. Because of the family relationship of information between controllers, one is willing to tell the other his secrets.

The basic relationship has been the same for a number of years. The fact that no formal meeting of all the people primarily interested in these things has been called, doesn't
5418 mean that no progress has been made in that direction, or that we aren't subject to improvement by new methods.

Q. Other than for the purpose of testifying in the present

proceeding, namely, that in which you are now testifying, when was the last occasion of a visit of a representative of your company, any one of your companies, to the properties or offices of Potomac Electric Power Company? A. I can't tell you that. I don't know.

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Q. Do you recall any occasion when any such visit was made? A. By whom in particular? Are you referring to any particular individual?

Q. No, no particular individual; any individual connected with your company. A. I don't have in mind the exact meeting place of all the meetings of the electrical committee and the operating committee, but in connection with those, I am reasonably certain that there have been visits to all the properties.

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Q. But you don't know, as a matter of fact, of any occasion upon which any officer or employee of your company has visited the Potomac Electric Power Company properties or offices, do you? A. I am unable to state to you the exact dates at which the visits which have occurred in the past have occurred.

Q. Are you able to state that there ever were any such visits? A. Outside of the plan of rotating the place for the electrical and station advisory meetings, which, in the course

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of time, would normally take in all the properties and would result in meetings of our people with the employees of other companies, I can't tell you the date on which any other officer appeared at any particular company.

Q. The last question wasn't directed to the date; it was as to whether you can testify that there ever was any such visit at any time? A. I can only tell you my background of thought in the matter, that at sometime or other officers of our company have visited. It would be difficult for me to prove to you that I ate lunch three years ago last February, but I am reasonably certain that I did.

5422 Q. And you are likewise reasonably certain that some officer or employee of some of your companies has been in Washington at some time? A. Yes.

Mr. Hamilton: Is there any doubt on that score?

By Mr. Binford:

Q. In respect to the offices and properties of the Cleveland Electric Illuminating Company, what was the last occasion upon which any representative of your company visited such properties or offices? A. Well, I make substantially the same answer with respect to those who are on the operating committees and my answer with respect to the indefiniteness of my mind as to dates when any of our officers

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went to Cleveland is the same as with respect to Potomac Electric Power.

Q. But, other than the occasion to which you testified yesterday, can you remember any occasion, regardless of date, on which any representative of any one of your companies visited the operating properties of the Cleveland Electric Illuminating Company? A. Outside of the visit of Mr. Schmidtman, I have in mind no dates or occasions of visits of our officers to the Cleveland Electric Illuminating Company, but I don't wish to convey by that that they haven't visited the company.

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Responsible officers of our company are able to travel here and there without getting permission from me. It is particularly true of the president.

Q. Do you recall any occasion other than any to which you have previously testified in this proceeding, of a visit of

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any representative of any one of your three companies to the properties or offices of the Union Electric Company of Missouri, or any of its subsidiaries? A. With respect to the matter of recollection, my answer is the same as last given with respect to Cleveland, but if you view the matter as important, I certainly can have history reviewed and see if I can find out.

Q. But, of your present recollection, you are unable to state as to whether any such visits have taken place, or if so,

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when? A. I believe that visits of that kind have taken place and for definite reasons, but I can't tell you the time nor do I know the reasons. There are so many things go on in this business that you don't attempt to recollect things of that type over the decades.

For me to say that an officer of our company never visited any of these companies, would be ridiculous, because I am certain that it isn't so and I know that the representatives of the inter-company committees which are on the firing line in their particular problems meet a number of times a year.

Q. How many times a year? A. Wherever the meetings 5427 are held.

Q. How many times a year? A. And as to whether or not they attend all the meetings or are able to attend all of them, I can't say, but I believe that they would average four a year in attendance and——

Q. (Interposing) Mr. Van Derzee, will you please refer to Respondents' Exhibit 32, which is a blueprint map of the territory served by the three companies with which you are connected? A. Yes.

5428 Q. You will note that there is an un-crosshatched strip of territory intervening between the northernmost territory an shown as served by Wisconsin Gas & Electric Company, and the southern area centering around Appleton served by

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Wisconsin Michigan Power Company.

Can you state what the source of electric utility service is in that area extending across Manitowoc, Calumet, Winnebago, and Waushara counties, and also south of Winne-
5429 bago County, in Fond du Lac County? A. It has been quite a long time since I have examined the agreements which exist in most cases and are filed with the Public Service Commission as to the operating territorities for distribution.

My recollection is that the area which you refer to, east of Lake Winnebago, is generally served by Wisconsin Public Service Company, and that the area to the west embraces territory in which Wisconsin Power & Light Company has distribution lines. I haven't a map of their systems before me so I can only testify from recollection.

Q. Would it be correct to say, to the best of your recol-
5430 lection, that all of the territory south of the south line of the northern area, the northern service area, shown as served by Wisconsin Michigan Power Company, and east of the southern area so served, down to the northernmost service area of Wisconsin Gas & Electric Company, is served by Wisconsin Public Service Corporation, or affiliated companies?

Mr. Hamilton: Could that question be read back again?

(Whereupon the pending question was read by the reporter.)

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Mr. Binford: Referring, of course, to the area shown on the map, Exhibit No. 32.

(Discussion off the record.)

By Mr. Binford:

Q. May I further identify the territory indicated by my question as lying within the counties of Marinette, Menominee, Oconto, Brown, Kewaunee, Manitowoc, Calumet and Winnebago? A. That area is generally served by Wisconsin 5432
Public Service Company except insofar as there are municipal distribution systems located therein. It is largely a rural area with a few cities.

Q. Now, the remainder of the territory immediately surrounding the southern distinct area shown as served by Wisconsin Michigan Power Company, is similarly served by Wisconsin Power & Light Company, is it not? A. Wisconsin Power & Light Company generally serves along the boundary lines which abut Wisconsin Gas & Electric Company and Wisconsin Michigan Power Company southern division on the west, and in an area in Sheboygan and a part of Fond 5433
du Lac County.

Q. In other words, the area served by Wisconsin Michigan Power Company centering upon Appleton, as shown upon the map to which we are referring, might be described as somewhat of an island service area completely surrounded by service areas of Wisconsin Public Service Corporation, might it not? A. I wouldn't describe it as an island sur-

rounded by Wisconsin Public Service Company. In fact, I wouldn't describe it as an island at all. It is a matter of

5434 *Gould W. Van Derzee—By Respondents—Cross*

fact that every company has to be abutted by some company, no matter how big it is or how small it is. There is no one company that occupies the face of the globe, so the mere fact of being surrounded does not mean anything.

(Discussion off the record.)

(Whereupon, the preceding question and answer were read.)

5435 *By Mr. Binford*:

Q. The description suggested by my last question was possibly erroneous in that on the west, the Appleton service area of Wisconsin Michigan Power Company is abutted by the service area of Wisconsin Power & Light Company, is that correct? A. Yes.

Q. But the service areas of those two companies are the only service areas surrounding this crosshatched Appleton area upon the map, Respondents' Exhibit No. 32, is that right? A. Unless the village of Shawano, which is shown in the upper northeast corner as being approximately on the

5436 boundary line constitutes another system, which is not in the service area, although I think it is classed as being in the service area.

Q. Well, eliminating municipally owned plants, the statement in my last question is substantially correct, is it

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not? A. Yes.

Q. Now, by the service areas of what companies, and excluding municipal operations, is the combined service area of Wisconsin Electric Power Company and Wisconsin Gas

& Electric Company surrounded, except insofar as it touches upon Lake Michigan on the east? A. By Wisconsin Power & Light Company on the west and generally on the north, except that one division of Wisconsin Gas & Electric Company abuts Wisconsin Public Service Company.

Q. That is on the north and east of Lake Winnebago, is that correct? A. Your comment applies to my very last statement?

(Discussion off the record.) 5438

The Examiner: This is a good point to stop for lunch. Let's recess until 1:30 p. m.

(Whereupon, at 12:35 o'clock p. m., the hearing recessed until 1:30 o'clock p. m. the same day.)

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AFTERNOON SESSION

(Whereupon, at 1:30 o'clcok p. m., the hearing resumed.)

The Examiner: Let us resume.

Whereupon, GOULD W. VAN DERZEE resumed the stand and testified further as follows:

5441 *Cross Examination (Continued)*:

Q. Referring again, Mr. Van Derzee, to the map marked Respondents' Exhibit No. 32 and particularly to the cross-hatched area showing the territory served in Michigan by Wisconsin Michigan Power Company, in Schoolcraft County, it appears that there is an area served which also encroaches upon and in Delta County, by Wisconsin Michigan Power Company, which is wholly unconnected with any other portion of the service area of Wisconsin Michigan Power Company and which derives its power solely through an interconnection on the east with Cliffs Power & Light
5442 Company, is that correct? A. There is such a system as you described which receives its power from Cliffs Power & Light Company. That is the particular stretch of line previously described and which has not developed to a point at which we think it advisable to make any extension from the end of the present 66,000 volt line in the vicinity of Cornell in order to serve it.

It is a fact that there have been, in the past, negotiations with respect to additional loads in between the source of power at Cliffs Power & Light Company and the village of

Cooks, which if obtained on a proper basis, would materially alter the present picture and advance the time that the disconnection of this strip would be removed from the rest of the system.

Q. From whom was that small system purchased? A. The system shown from Cooks to Cliffs Power Company was not purchased in the form in which it is shown there now. I, personally, worked on this matter many years ago, when it was necessary to bring in an oil engine from Watersmeet and establish service in the villages of Garden and Cooks. 5444

The former is not shown on the map. My recollection is that it is further down the little peninsula shown to the southwest from Cooks.

Later, when the load began to grow on this small system, consideration was given to another source of supply because the oil engine source of power was getting to be insufficient, and negotiations were opened up with the Cliffs Power & Light Company from which the company is purchasing power at other points to see if a line could be extended through Manistique so as to connect with this small independent system. 5445

Finally, those arrangements were made. My recollection is that the City of Manistique gave the company the right to go through the city but not to serve in the city. That is the way the matter stands at the present time.

Q. When was that interconnection with Cliffs Power &

Light Company effected? A. I can't give you the date offhand.

5446 Q. Can you give me approximately the year? A. I can look it up for you, but my recollection is that it was a matter of, say, three years ago or more.

Q. At that time, you evidently considered that the most economically feasible way of serving this particular small area was by an interconnection with Cliffs' Power & Light Company. That is true, is it not? A. True as far as it goes. There are a number of rural customers along this line that would take service and the point at which it was bought
5447 from Cliffs was the cheapest as far as the company was concerned as a source of power and incidentally, as a distribution line that could take care of additional customers.

It was cheaper as an expedient than any consideration of bringing a line over from Cornell or vicinity, which was the original idea in mind when we extended that line and started the development in the district of Cooks.

Q. Is the particular area served by the connection from Cliffs Power & Light Company in Schoolcraft and Delta Counties at present on a self-sustaining or paying basis insofar as monetary returns are concerned? A. We do not
5448 have separate income accounts for each small division of our system such as this. In fact, this is not a division, it is a

very small piece of line which is a part and a very small part of a very large division.

Q. So you are unable to answer the question? A. I am unable to tell you just what an income account for Cooks would look like on the bottom line, but——

Q. (Interposing) Now, that small area in turn is divided into two service areas according to this map, is it

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not, with a more or less perpendicular strip of unserved territory between the segments? A. There is shown a wide open space in between the two segments of the district you are talking about. I don't know whether you are familiar with the northern peninsula of Michigan or not, but there are districts where it isn't even advisable to take out a franchise if you can get one and this may be one of them.

Q. Well, do you know whether or not that area is served with electricity by any company other than—— A. (Interposing) I can't say whether the Cliffs Company has any 5450
stray lines into that township or not or whether the Manistique Light & Power extends over the boundary line into a township and thereby obtains some rights.

Q. Manistique plant is a municipal plant, isn't it? A. No.

Q. But it is confined to the community of Manistique in general? A. In general.

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Q. Now, other than the strip of which I have spoken, and speaking particularly of Delta and Alger counties and 5451
with territory to the north and east of the area served by the line from Cliffs Power & Light Company to Cooks, what electric service is there—that is to say, by what companies is it provided or is any provided? A. I doubt if there is very much electric service of any kind in there at the present moment. I would like to refresh my memory, however, by consulting a map of the Cliffs Power Company system if we have one.

(Discussion off the record.)

5452 A. (Continuing) I have traveled in the district but not recently. At that time it was a very sparsely settled district. I doubt if there are many electric service customers in it now.

Q. And you can't at the present time state offhand as to whether or not electric service is provided by any companies within that area? A. I can't without reference to the latest maps showing the extensions of other systems.

5453 Q. That portion of the map, Exhibit No. 32, showing the unhatched part of Marquette County is served by Cliffs Power & Light Company? A. Yes, that district is generally served by Cliffs Power & Light. There may be some municipal plants in there.

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Generally, the source of power is Cliffs Power & Light Company.

Q. The unhatched portion of Baraga County is served by what company with electric service? A. There used to be a small company in there with a name something like Baraga
5454 County Light Company. That county is even more sparsely settled than some others. I have been over a great deal of it on foot, because a large area in there known as the Sturgeon River Basin contains some water power sites which the company has.

Mr. Browning: Which company?

The Witness: Wisconsin Michigan Power Company. There is a small company serving in Baraga. I believe it has connections with the old Houghton utility that serves in the City of Houghton.

By Mr. Binford:

Q. Now, there is one other line that serves solely through the connection with Cliffs Power & Light Company, which includes the community of Michigamme, apparently, is that correct? A. Michigamme?

Q. Michigamme. A. Yes.

Q. That is correct, is it not? A. Michigamme is the correct pronunciation.

Q. But the sole source of energy in that distribution 5456
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system is the electricity purchased from Cliffs Power & Light Company? A. Yes.

Q. When was that acquired—that distribution system? A. That was acquired, I would say, approximately the same time that a number of these other small companies were being acquired in this district.

It is entirely disconnected from the balance of the system and we acquired the system because we expected that sooner or later the line would be connected between Sidnaw and Michigamme and that we would develop one of the water 5457
power sites in Baraga County and bring therefrom a line due south so as to inject a source of power into the middle of the line and between Bruce Crossing and Michigamme.

We also had in mind that at some later date we might extend a line from a point somewhere near the word "Cliffs Power Company," which appears near the letter "A" in the word "Michigan" in a general southerly direction so as to make a loop with the Cornell line, but those events have not yet taken place. The possibility of them is still in the

picture and we are waiting for the best moment and the proper moment when it can be done efficiently.

Q. Do you consider that that isolated line, deriving its sole source of energy from Cliffs Power & Light Company is in any sense a part of the integrated system of Wisconsin

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Michigan Power Company? A. Why, I think so. Historically, it has such antecedents. It is a fact that it is connected with the Cliffs Power Company at that point. We
5459 are connected with the Cliffs Power Company at other points.

The Cliffs Power Company has discussed with us from time to time during the past years, the possibility that we would be interested in acquiring their electric distribution system and when the negotiations last were dropped, it was a question that they wanted more money than we wanted to pay, but it seems to me very evident, even if we never acquired the Cliffs Power Company that our original plan contemplated a feasible interconnection with these, what you would call, "tag-end systems" with the main body of the
5460 northern division of the Wisconsin Michigan Power Company.

We wouldn't have bought them if we had expected to operate them independently and in perpetuity.

Q. But you think it may become in the future economically feasible to connect these two isolated small systems with your own sources of power, do you? A. I think it may. At the moment, transmission lines to accomplish that are not justified and hence, the purchase of power from Cliffs Power continues to be expedient.

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Q. At the moment, such interconnection would not be economical, in other words, is that true—not economically

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feasible? A. Well, we wouldn't postpone it until the intended time in the future when we expect it would be if it were now feasible.

Q. You wouldn't say that more logically those two disconnected distribution systems would be appropriate to the system of Cliffs Power & Light Company rather than to the system of Wisconsin Michigan Power Company? A. Well, 5462
if the Cliffs Power & Light Company were giving consideration to absorbing our company, perhaps your statement might be correct.

Q. In the absence of such consideration? A. In view of the fact that future negotiations would be the other way around, I wouldn't draw any such conclusions from your question.

Q. Well, eliminating entirely the question of future consideration as to the purchase of one company by the other, now looking purely at geographical and operating facts, 5463
wouldn't it seem rather apparent that those two distribution systems which derive their sole power from Cliffs Power & Light Company should be a part of that system, if a part of any system, rather than of a company with whose lines they have no interconnection at all? A. Well, I have had so many arguments with municipalities buying power from us along the same line that I don't think it follows that the

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mere purchase of electricity from some other source means that that is the place where ownership ought to rest in the interests of the ultimate customer.

5464 Q. You think your company and your security holders—that is to say, the company of Wisconsin Michigan Power Company and its security holders derive benefit from the ownership of these two isolated distribution systems, then? A. Yes, I am reasonably certain that they are making more than their out-of-pocket expenses because the rate that we were willing to pay at the start for current was predicated on their paying their way to a degree.

I can't tell you just what that degree is, but it is not a
5465 burden on the rest of the system.

Q. Even though there is no present interconnection with the rest of the system and such interconnection is not presently practicable? A. No, they make some contribution in my opinion to the fixed charges on the balance of the system. The customers in Michigamme, as long as they are looked out for by local agents, aren't particularly concerned with whether the power comes from Cliffs Power & Light Company or some other place as long as they get good service and we see that they get it.

Q. Well, that would be true also, wouldn't it, if you
5466 owned some isolated distribution systems in Oklahoma or some such place as that? A. Well, I was pointing out that

you have to consider these things, what the local people think. They are not crying for a transfer of this system to some other place because they think the service will be any better.

Q. Mr. Van Derzee, I believe yesterday you testified in substance that Wisconsin and Michigan rates, or the determination thereof, were made entirely independent of securi-

ties and based only on the fair value of the property which appears at page 2,212 of the transcript of record, and further amplified that statement upon the following page of the record by a statement, in effect, that the valuation of the property for the purposes of establishing a rate base was made with no relation to securities whatsoever. You were speaking from your knowledge as to what the law requires in the states of Wisconsin and Michigan in respect to the subject matter of your remarks? A. I was speaking from my understanding of the practice that has heretofore pre- 5468
vailed as far as I know it. The usual method of determining proper rates is to examine the income accounts of the company, the revenues that are derived from the sale of the business, the expenses that are incurred and are deducted therefrom, including depreciation, so as to arrive at what is usually called net operating revenue, net operating revenue being the operating revenues minus the operating expenses.

The operating expenses must include the proper allowance for depreciation. The next step in determination of

rates is to have an inventory and appraisal of the property 5469
which is used and useful in the conduct of the utility business. Not attempting to describe the long processes by which those are made and overhead values for construction are finally determined, the Commissions do arrive at a figure which is known in general in Wisconsin as the rate base.

That rate base is so determined—and I might say it includes a reasonable amount of working capital, materials and supplies and possibly some attention is given to going

value—that rate base becomes the denominator in a fraction, the numerator of which is the net operating revenue, in the determination of the rate of return.

If the per cent return on the fair value of the property is within the limits of fair return as so considered by the Commissions, then it is not the usual practice to make any change in rates but if the rate of return is considered to be excessive, then the changes are made so as to reduce the rate of return expressed in per cent to a reasonable figure.

5471 What I meant to indicate by my testimony was that that is the method of doing it that we have worked with and no other principles have been laid down to my knowledge that is definite in the determination, finally, of rates by the Commission, but I am well aware that some consideration is now being given around the country to covering the financial requirements, based on what you have to deduct from gross

—2,378—

income for bond interest, what you have to pay for preferred stock dividends, and what is a reasonable allowance for surplus out of which adequate common dividends can be paid.

5472 But, as far as my home grounds are concerned, that is the formula that is usually used and I think, as a matter of Wisconsin law, the Commissions are required to make appraisals of properties.

Q. Your impression of Wisconsin law and your impressions of Michigan law didn't enter into your answers on direct examination at the point indicated there? A. Not consciously.

Q. You are not a lawyer? A. I am not, but I do know that within the last couple of months a gentleman who is a

customer of the company went to the Public Service Commission and said, "How long since you have made an appraisal of the property of Wisconsin Electric Power Company?" and requested that the Commission forthwith make a new appraisal so that rates could be properly determined.

Q. In the computation of value or the appraisal of property, and more particularly in the computation of the value of additions to property after appraisal has once been made, there are problems, are there not, as possibly exemplified by you in some of your testimony yesterday or the day before, 5474 as to what items may properly be regarded as additions to

capital investment as distinguished from maintenance expenditures? A. Yes, there are borderline cases. Those cases, in sum total, however, are a very small per cent. of the continuous run of capital expenditures.

Q. But those are cases which necessarily call for not only the exercise of managerial discretion in respect of your own accounting, but also for the exercise of a quasi judicial discretion by regulatory bodies in determining the factors entering into your rates, is that not true? A. They would give 5475 consideration to those facts as to whether or not the rate base that we present as being proper is in effect the proper rate base.

I desire to mention, however, that this item of $50,000.00 that I spoke of, and which seems to be unquestionably a capital expenditure, is a very small per cent. of annual expenditures of three to four million dollars, and questions like that don't pop up every day. Our capital accounts are very thoroughly audited and we have to prove them to representatives of the Commission.

5476 Q. From your extensive acquaintance with the operations, other than the internal deliberations, of the regulatory bodies in Wisconsin and Michigan, can you state approximately what the number of the personnel of the Wisconsin Public Service Commission is? A. The number has been changed

—2,380—

within the past year and a half. There was a time, according to my recollection, when there were three or four hundred employees. At the present time there are three Commis-
5477 sioners. There is a chief engineer and there is Mr. Cobert; then Mr. Morehouse was head of the reseach division and he has left. Mr. O'Leary is now the acting head of the research division.

Surrounding Mr. O'Leary's office, I would just guess that he has four or five little offices in which, perhaps, fifteen or twenty men are located, and surrounding Mr. Steinmetz' headquarters, I would say that he must have at least thirty or forty men working on various projects.

When I see these officers, I don't see the men who are in the field and I have really no occasion to find out, nor am I
5478 curious about the exact number of employees that are working for the Commission. So what I give you is just the result of my own observations.

There is also another division that has to do with transportation.

Q. Will you please refer to your testimony on direct examination in this matter which appears at page 2,125 of the transcript at which point you stated in part, "In effect, The North American Company, over the years, has been our financial backer and as a result we have been freer to devote our

major attention to other phases of the business"? Is The North American Company at the present time the guarantor

—2,381—

of any securities issued by any one of the three public utility operating companies of which you are an officer? A. I know of no such guarantee.

Q. Has it ever been such a guarantor to your knowledge? A. I do not recall at this time specific instances unless the occasion recited in connection with the 1927 financing of Wisconsin Michigan Power Company, where the parent company put up, I think it was, $5,000,000.00 or $7,000,000.00 for a short period of time pending a certain transaction, could be classed as being in effect the guarantor of certain results. That was not the term that I had in mind when referring to "backer." 5480

Q. What did you have in mind? A. I had in mind that on many occasions—for example, when Wisconsin Electric Power Company in 1920 was constructing the Lakeside Power Plant, The North American Company made advances on open account for the construction of the plant.

Q. Do you know approximately what those advances amounted to? A. They were heavy but I can't tell you just the exact amount. It is a matter of record. 5481

Q. Do you know how much interest was paid by Wisconsin Electric Power Company upon those advances, what rate of interest? A. Generally, the current going rate of interest for loans of that type.

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Q. In that territory? A. Yes.

Q. You have an approximate idea as to what those rates of interest were at the time under consideration, haven't

5482 *Gould W. Van Derzee—By Respondents—Cross*

you? A. I think they were in the neighborhood of 6½ per cent., that being the time when coupon interest on the bonds of Wisconsin Electric Power Company were bearing 7½ per cent., and the Public Service Commission of Wisconsin allowed a rate of return considerably in excess of that.

Q. You don't consider that that was a speculative loan upon the part of The North American Company, do you? A. I think that my statements yesterday with respect to the risk that The North American Company took in going
5483 into this first installation of powdered fuel bear me out in stating that along with John Anderson and Mr. Way risking their reputations, North American Company risked its capital.

Q. You mean to say risked these advances which came ahead of the preferred stock presumably and ahead of all the minority stockholders' interests? A. These were on open account without notes. In my opinion they did not come ahead of the bonds.

Q. What was that? A. These were on open account without notes.

5484 Q. And therefore? I didn't get your last statement. A. In my opinion they did not come ahead of the bonds.

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Q. I made no suggestion of them coming ahead of the bonds, but I did suggest that they came ahead of the preferred stockholders' interests, and, in view of that fact—which you concede to be a fact, do you not? A. Yes.

Q. (Continuing) —the risk was not one that you would call extremely hazardous, was it? A. They might not have lost the exact dollars that they advanced, but they put com-

mon stock capital into the business which might have been seriously impaired if the whole plan had not worked, and, indirectly——

Q. (Interposing) But, insofar as the advances are concerned, there was no great risk involved, was there, as distinguished from the common stock investment? A. Well, if you consider just how that money would be paid back, in the event of failure of the whole project to work, it seems to me that somewhere in the picture there is a very distinct tinge of risk in connection with the whole proceeding, not 5486 only the common stock but any money advanced to effect the ends that the common stock funds were supposed to effect.

Q. Isn't it a fact that, when The North American Company was advancing you money at that time, at approximately 6½ per cent. interest, it was able to procure funds, which the Company so advanced, by paying merely three per cent. interest to person from whom it borrowed? A. I don't

know that to be a fact.

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Q. So you know nothing of any intervening profit there secured by The North American Company without any necessary extension of its own funds? A. I am not aware of any profit having been taken through any such channel.

Q. I believe there was a statement yesterday, by you or by your counsel Mr. Browning, to the effect that even at the beginning of the century—this present century—the process of corporate simplification had been begun by what were termed the predecessors of your present companies. I assume by that, and, from the history of the acquisition of

5488 properties by these several companies, which you have set forth, that you meant that The North American Company interests were accomplishing simplification of corporate structure by gradual absorption, throughout the area, of independently-owned companies.

Mr. Browning: Just a moment. The statement was mine and I think that probably counsel had better inquire what I meant rather than what Mr. Van Derzee meant.

5489 Mr. Binford: I believe Mr. Van Derzee is on the stand at the present time.

By Mr. Binford:

Q. I would like to ask the witness whether such a process

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of corporate simplification as I have just suggested wasn't the principal one being effected by The North American interests in the territory now served by your three companies around the year 1900, and from then on for a considerable period of time. A. As Mr. Browning stated, I

5490 didn't make the statement that you referred to, and I wasn't with the Company in 1900, and I have never been an employee of The North American Company.

I came with The Milwaukee Electric Railway & Light Company in 1913, when the original consolidation of 1896 was a matter of dim history.

I can't say, from my own knowledge, what was in the minds of the people that brought about the consolidation.

Q. But you have traced, have you not, in your direct testimony, the acquisition of properties, which has—for

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the present, at least—culminated in the three public utility operating companies with which you are now connected? A. I gave the financial history, being largely a recitation of the time when the different companies were incorporated, and when they changed from one company to another, insofar as the information was available.

I did not, to my recollection, make any comments about who caused them to be combined or why.

Q. You also identified as correct the several charts on

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that subject, which were introduced in evidence by your counsel? A. That is correct. Those were prepared as the financial history of the outstanding securities, under my direction.

Q. And, as I believe you also replied in answer to a question upon the subject, from the records of the present company? A. Yes.

Q. Are you able to state whether or not those acquisitions of property were, in each instance, made directly by the company shown as the acquirer upon the several charts introduced in evidence upon that subject, or whether there was an intermediary involved? A. No, I am not.

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It is conceivable that someone might have obtained an option on properties and turned it over to the succeeding company.

Q. In fact, that was quite a common practice some years back, was it not? A. My recollection is, with respect to small utility properties, that was a reputable process.

Q. My question was not whether it was reputable, but whether it was not common—that is to say, frequent. A.

5494 *Gould W. Van Derzee—By Respondents—Cross*

Judging by the exchange of properties throughout the

—2,387—

country, from one owner to another, I think the evidence speaks for itself.

Q. And speaks in the affirmative, is that it? A. Yes.

Q. And you don't know to what extent profits were realized by intermediate persons or interests, in the acquisitions of these numerous properties? A. No, I do not.

Q. Or whether such profits were realized by persons
5495 affiliated with The North American System or not? A. I have no knowledge on that subject.

Q. In the course of your dealings with the Wisconsin Commission, have you been required to—and by "you", in this particular instance, I mean the three companies of which you are an officer, or any one of them—to write down values assigned upon your books to properties acquired? A. I think a part of the testimony I gave with respect to the Commonwealth Power Company indicated that a figure of $1,400,000.00 was changed to $1,200,000.00 by the Commission in connection with its approval of a certain transaction.

5496 Perhaps the best evidence of the over-all result in that connection may be a comparison of the book values and the amount of property which, by request of the Commissions, we have worked up to be assigned to Account 105, so-called, in the Federal Power classification.

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Q. But, of your own recollection, that is the only instance that you recall? A. If you would like to have——

Mr. Binford: (Interposing) Please read the question.

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(Whereupon, the pending question was read by the reporter.)

The Witness: I recall an instance in connection with the purchase of Wisconsin Public Utility Company in which the Commission required that the company amortize out of operating expenses the amount of approximately $20,000.00 a year of the purchase price for a period of years and that another relatively small amount——

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Mr. Binford: (Interposing) Off the record.

(Discussion off the record.)

The Examiner: Better read it. I don't think the witness had finished his answer to that.

The Witness: No, I was in the middle of my answer.

(Whereupon, the statement of the witness was read.)

The Witness: (Continuing) ——be charged to surplus. I also recollect that there was some discussion with the Commission in connection with the authorization of the purchase of the Carey Electric & Milling Company, but I do not recall what the end result was.

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A few minutes back, I made the statement that I thought that reclassification of property, as required by the Wisconsin Commission, and also for certain companies by the Federal Power Commission, had

given some figures which might be useful in connection with your question.

Account 104, as I recollect it, is supposed to contain such amount of the total property account as represents the excess of book cost over historical cost. Account 105 is supposed to contain the amount of any write-ups of property that have occurred.

In the case of Wisconsin Michigan Power Company, the figures which have now been determined as
5501 chargeable to Account 104, are a red figure of $320,292.66. That is a very unusual entry, as you will all recognize, to Account 104.

It means that original cost for the property was in excess of the books by $320,292.00.

The amount which has been worked out for Account 105 for Wisconsin Michigan Power Company is $273,410.84. For Wisconsin Electric Power Company, the excess of books over historical cost, chargeable to Account 104 is $452,490.61 and at the time that these figures were prepared there was——

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By Mr. Binford:

Q. (Interposing) Will you please give the date as of which those figures purport to reflect the data therein? A. January 1, 1938. And as of that date, the amount then segregated out of the property account of Wisconsin Electric Power Company to Account 105 was $18,544.27, which amount has subsequently been eliminated by charge to surplus so that there is no write-up on the books of Wisconsin

Electric Power Company.

The charge to Account 104 which has been worked up for Wisconsin Gas & Electric Company is $130,541.25, and there is no amount chargeable to Account 105.

These amounts, as contained in the reports prepared pursuant to orders of the Public Service Commission of Wisconsin, have not been formally approved.

I think that there is extraordinary significance to be attached to the small amount of entries to be made in Accounts 104 and 105.

Q. Of course, the accounting figures which you have given 5504
are figures as of the day indicated and do not in any way reflect what write-ups there may have been in the past that may have been eliminated in the past, do they, but only what remain unaccounted for or to be accounted for? A. Figures are as of the date for which they were asked.

Q. And for the date which you stated? A. Yes.

Q. The Wisconsin Electric Power Company now has outstanding one class of preferred stock, is that correct? A. It has outstanding 6 per cent. preferred stock issue of about 1896, which we refer to as 6 per cent. preferred capital stock. 5505

Q. Which is non-callable? A. Which is non-callable.

And an issue of 4¾ per cent. preferred stock which is callable.

Q. That is as shown by Respondents' Exhibit No. 45, in this case, which shows that of the 6 per cent. preferred on June 30, 1940, there was outstanding stock to the amount in par value of $4,450,800.00 and of the 4¾ per cent. series there was outstanding, as of the same date, stock to the

par value of $26,209,800. Approximately when was the 4¾ per cent. series preferred stock last mentioned issued and sold? A. Early this year, in the late spring, as I recollect.

Q. And it was marketed, was it not, with the aid of local Wisconsin security dealers? A. It was.

Q. And without the intervention of any New York or out-of-state dealers? By "out-of-state" I meant outside of Wisconsin or Michigan. A. The underwriters of the por-
5507 tion of the stock not exchanged were entirely Wisconsin underwriters. You understand, of course, that there was no new money that went into the company in connection with this issue of stock and that it had a decided difference from other financial transactions involving large issues of bonds.

Not only in the respect that no additional money was put into the property, but the fact that the existing outstanding preferred stock, namely, the issue of 1921 6 per cent. was widely held in the locality——

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5508 Q. (Interposing) By the "locality"—— A. (Continuing) —and it was considered that the local underwriters were, in this particular instance, particularly well qualified to make the exchange because of their intimate knowledge and acquaintanceship with the holders of a very substantial amount of the stock to be called in.

Q. And that exchange and sale was successfully carried through by the local underwriters, was it not? A. It was.

Q. Common stock, as of the same date, is shown by the same exhibit to have been outstanding in the amount of

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$13,959,280.00 par value. That is correct, of course, is it not? A. Yes; 1,395,928 shares outstanding, $10.00 par value.

Q. Where is the 6 per cent. non-callable preferred stock of Wisconsin Electric Power Company principally held geographically speaking? A. That stock, as you know, is a very old stock and it has come into the hands of a good many investors who keep the investment—universities, trust funds, where it is legal that it be used—and The North American Company has an amount which I do not recollect offhand, but it is a rather substantial amount.

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Before the refinancing referred to, I believe, if I recol-

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lect correctly, that there were considerably under a thousand stockholders owning this stock. There are a great many small amounts in Milwaukee.

Q. Now, in respect to Wisconsin Gas & Electric Company, the preferred stock of that company is very largely held in Wisconsin and Michigan, is it not? A. It is.

Q. Was that stock—that is to say, the presently outstanding preferred stock of that company—recently issued in replacement of pre-existing outstanding preferred stock? A. Yes, in the early part of 1939, if my memory serves me correct, the plan to refinance the preferred stocks that were callable of all three companies was considered more or less as a unit.

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They were all of the same type. They all involved widespread ownership by residents in the communities served by the company and in the State of Wisconsin and Michigan and, hence, approximately the same general procedure was adopted. Not only was no new money involved on refinancing

5512 here from the standpoint of getting it from the sale of stock, but you will note that the amount of outstanding preferred stock of Wisconsin Gas & Electric Company decreased in connection with getting a bank loan.

Later in the year, about in December, after fininshing Wisconsin Gas & Electric Company matters, Wisconsin Michigan Power Company preferred stock was refinanced.

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5513 Q. In each instance—that is to say, the case of Wisconsin Gas & Electric Company, the case of Wisconsin Electric Power Company, and the case of Wisconsin Michigan Power Company—the refinancing was effected through local underwriters, is that not true? A. That is correct, and for the particular reasons stated. There was, in effect, no new money going into the business and it was a question of dealers and their salesmen who knew the clientele, talking to them personally and getting the exchange and the stock called and making sale of the new stock, as the case was.

5514 Q. Now, in respect to such unsecured promissory notes, or bank loans, as were effected in these three transactions, or any one of them, isn't it true that such loans were effected primarily through the personal efforts of Mr. Way, the president of your company? A. In the case of Wisconsin Gas & Electric Company and Wisconsin Michigan Power Company, the amounts involved were within the capacity of the local banks to handle and the records will show that the money was obtained locally and on reasonably good rates of interest.

In the case of Wisconsin Electric Power Company, where the requirement involved, as I recollect it, about fourteen

and a half million dollars, it was necessary to effect the loan in the east.

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This was done through a syndicate headed by the Chase National Bank. I recollect that one of the Chase National Bank men came out and very carefully examined the property. I took him around and showed him the property at that time, and in answer to your question, while I don't know of my own knowledge what the extent of negotiations on that interest rate were by any of the financial men in 5516
The North American office, I am sure that Mr. Way had something to do with it.

Q. Was a finder's fee, so-called, paid in connection with the obtaining of that loan? That is to say, was compensation paid to someone for their services in connection with the negotiation or procurement of the thirteen million plus loan? A. Well, I testified that I was not a financial expert and didn't handle these matters personally. I recollect that there was a disputed finder's fee to be paid to a financing house in the east.

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Q. Dillon Read & Company, would that be the house? A. That sounds like the name. And I believe that that fee was finally allowed after consideration by the S. E. C.

On that point I am not certain, nor do I know the amount of the fee at the moment.

(Discussion off the record.)

By Mr. Binford:

Q. I believe you stated as a part of your reply to the

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5518 last question that you did not regard yourself as a financial expert? A. That is right. I might say that there are varying grades of financial experts which go all the way from a good working knowledge of what makes the financial clock tick to the specialists that go considerably further. Just where I fit in that picture, I can't tell you at the moment.

Q. Did you take part in any negotiations in New York with relation to any recent financing of any of the three
5519 companies with which you are connected? A. I attended a board meeting at New York at the time of the closing of the bond sale in the amount of $55,000,000.00 to the underwriters.

That was in 1938, sometime in October. I went there as a director to make a quorum in order to facilitate the handling of certain matters that were necessary, incident to the closing operations.

Q. That was of the company now known as Wisconsin Electric Power Company, is that correct? A. Yes.

5520 Q. Who was the principal underwriter of that $55,000,000 issue? A. Dillon Read & Company I believe was the principal underwriter.

Q. Did you participate in the selection of Dillon Read &

Company as the principal underwriter? A. No, I did not. I had nothing to do with it.

Q. Have you anything that you would care to add further in regard to any financial assistance that may have been lent to any one of your three companies by The North American Company?

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Mr. Browning: By that I take it counsel means add to testimony on both direct and cross?

Mr. Binford: Yes.

The Witness: I think I covered the subject generally yesterday and cited a typical example of financing in 1927 of Wisconsin Michigan Power Company, which I worked on to a certain extent at the Wisconsin and Michigan end.

I think the record would show, if it were possible to bring on to it, all the transactions that occurred of a similar nature, that it would be a very voluminous record indicating continued cooperation in financial matters.

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By Mr. Binford:

Q. Principal offices of The North American Company are located in New York City, are they not? A. Yes.

Q. When did you last visit those offices? A. At the meeting which I referred to of the operating executives which I think occurred in May or June of this year.

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Q. And previous to that, what was your latest visit to

those offices? A. I would say that I was at the offices once or twice a year on some matter or other.

Q. Did you make a special trip to New York for that purpose or was that incidental to a customary annual or semi-annual trip to that part of the country on your part? A. No. The visit in the spring was particularly for that purpose and my visits are usually for that purpose. My friends in New York complain that I came down there to

5524 go back on the next train or shortly thereafter and they never see me.

Q. I believe you testified, in substance, upon direct examination that in the absence of such competitive incentives as may be furnished by your competition with your fellow companies in The North American System, there is an inherent danger of stagnation in the operation of a business such as that conducted by the three companies with which you are connected. You believe that to be true, do 5525 you not? A. Yes, I believe that to be true. I can't name you the exact degree of inherent stagnation but it exists very definitely.

Under the stimulus of what your brothers and sisters are doing, you are put on your toes to do better yourself. I think I recited the case of the St. Louis people coming to Milwaukee recently on their return visit where they were to find out why our billing costs were less than theirs and the comment that I made to Mr. LaPorte, which doesn't

express in the record the determination, vim and the vigor 5526 with which he said, "Leave it to me," when I asked him, "Are you going to let them get ahead?"

Now, if some other company had come and looked at our billing records and some remark had been dropped about "Are they going to exceed your records," I know as well as I am sitting here that you have got no such response as that.

Q. Are you at all familiar with the Detroit Edison Company or its operations? A. To some extent. Not particularly. I recollect having visited there about 1916 to find

out, in connection with a trip I was making, what they were doing to ration power. That was in a time of power shortage.

I have seen, but I wouldn't say that I know Mr. Dow very intimately. I met Mr. Savage, Mr. Marshall, Mr. Snow.

Q. These gentlemen you have mentioned are or were officials of the Detroit-Edison Company? A. I can't say as to whether Mr. Snow is an official but Mr. Dow was the president. I don't know what position he occupies now. Mr. Marshall is one of the top officers. I don't know what Mr. 5528
Savage's position is or whether he is still with the company.

Q. Do you feel that your knowledge of that company is sufficient for you to say whether or not you would regard it as

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a stagnant company? A. I think my knowledge, including a certain amount of hearsay, is sufficient to say that it has a good reputation. I have never heard of it defined as a stagnant company.

Q. Does it participate, as far as you know, in the competitive endeavors which you feel are common to North American subsidiaries? A. It has membership on the—or 5529
at least is on the committee of operating engineers, intercompany station advisory committee, so-called, and I believe that it has a representative on the electrical committee.

I didn't see the representative from Detroit on the accounting committee.

Q. The accounting committee is the one recently created, is it not? A. Yes. I would like to add that there is a certain degree of financial interest on the part of The North American Company in the Detroit Edison Company which may be related to the participation on the committee.

Q. Do you feel that, possibly, the participation of that company, namely, Detroit Edison Company in these inter-company activities has aided it in escaping stagnation? A. Well, if they had their ears open, it would be very helpful to hear what goes on.

Q. Do you know the name of the principal electric public

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utility serving the City of Chicago? A. Commonwealth Edison Company.

5531 Q. Is that it? A. I believe that is the name of it.

Q. That company is not at present a part of any holding company system, is it? A. I have no information on that. I doubt that it is.

Q. Would you characterize that company as stagnant? A. No.

Q. Do you know what company serves principally the City of New York with electric service? A. Consolidated Edison.

Q. That company is not part of a holding company system, is it? A. I can't answer that.

Q. Do you know enough about that company to say

5532 whether or not you would consider it stagnant? A. I really know very little about it with the exception that I have heard their residence rates are not as low as some in the middle west.

Q. Do you know what electric public utility company serves the City of Boston? A. I believe it is the Boston Edison.

Q. That company, likewise, is not a part of any public utility holding company system, is it? A. I can't answer

—2,402—

that.

Q. Are you sufficiently familiar with the operations of that company to be able to express an opinion as to whether it is stagnant or not? A. I really have no information with respect to its degree or lack of stagnation.

Q. You do concede that it is possible for a company—a public utility company—independently owned, to be operated progressively and not to stagnate, do you not? A. I don't know any reason why, with proper circumstances, it ought not to be progressive, but I am not attempting to pass on how much more progressive it would be if it had the facili- 5534
ties of family relationships of people in the same business.

Q. Would you say, along that same line of reasoning, that the ultimate good in this direction would be accomplished by a single holding company system for all the major utility companies of the United States? A. No. Then you get into meetings of the intimate inter-company committees which become conventions and I have previously described why you can't get much out of a convention.

Q. Where would you draw the line at the size of such associations? A. My experience goes only to the size of the committees of the inter-company group of North Amer- 5535
ican Company.

I can't say what would happen with considerable enlarge-

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ment in the size of the committee because I have no experience but I think it is true that if you attempt to add too many members, you lose some of the intimacy and close touch and ability to go through with a single subject to conclusion.

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By Mr. Binford:

Q. Would you say then, in your opinion, the decrease in the number of companies participating in these activi-

ties would result in a loss to the remaining members, while any increase would tend to make the organization too large for efficient operation? A. I don't think you could measure it with such a fine micrometer as the word "any" and I am not prepared to testify as to the shades of difference that would result from subtracting one member or adding one member, but I would hazard a guess that if you made the Committee five times as large it would be unwieldy.

Q. But as it is, you feel it is just about a satisfactory
5537 size organization? A. I honestly feel that a great deal of good results from the present organization.

Q. Will you please turn to page 2210 of the transcript of testimony in this case? Reflecting your testimony of day before yesterday, the page in question shows the question:

"Well, do you have paper profits between your companies?"

And your answer:

"We have no paper profits."

Did you mean to assert that there are no profits realized, for example, by Wisconsin Electric Power Company in the
5538 sale of electricity to the subsidiary Traction Company? A.

It may be that we did not have a meeting of minds on what paper profits are. In our business we talk about a rate of return and when we get a rate of return we don't assume we have made any profit. If we have earnings in excess of rates of return, in our office at least, we begin to think that some profit has been made, that is in excess of reasonable rates of return. I didn't intend to indicate that there was not some

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return on the investment of Wisconsin Electric Power Company devoted to serving the electrical needs of the Transport Company. That was not in my mind.

I had the also perhaps incorrect understanding that this was in some way associated with, not what might be termed "watered stock", but some iniquitous practice of injecting into a transaction an illegitimate profit.

Q. But there are profits realized by your individual companies within the group from dealings with one another, are there not, which you do not regard as iniquitous? A. 5540
With your definition of profits being the same as mine, namely a rate of return that is reasonable on the investment serving the other company, I will say that we do get, after operating expenses and depreciation, solely on the investment required to serve the affiliate, if that is a profit, then we make a profit.

Q. But insofar as under your system your allocation of costs is true, you endeavor to realize only what you regard

as a just and reasonable return? A. That is it, and the contract under which we render that service has been in- 5541
dividually approved by the Public Service Commission of Wisconsin. They are generally found to be on a cost basis, the cost making allowance for such return as is necessary.

Q. I believe you stated earlier during the course of this cross-examination, that you were not present at the time of the giving of the testimony relative to the operation of the Cleveland Electric Illuminating Company, nor had you read the transcript of the testimony taken at that time. That is true, is it not? A. It is.

5542 Q. You know, do you not, that the Cleveland Electric Illuminating Company does not operate transportation facilities in its territory but sells electric current to a separately owned transportation organization? A. I believe that is the arrangement.

Q. Have you any knowledge of the situation existing in any city where there is a separation of ownership of the electric transportation operations and the electric lighting and power operations? A. As to what point?

5543 Q. As to the manner in which the independently-owned organizations cooperate in carrying on their respective ser-

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vices to the public. A. No, I have no knowledge of that kind.

Q. Then, as far as your experience is concerned, you do not have sufficient facts, do you, to be fully informed as to whether such an arrangement could be carried out in respect to the Transportation Company and the Electric Power Companies in your associated group should the Transportation Company become independently owned? A. I would like to have you read that again.

5544

(Whereupon the pending question was read.)

The Witness: What do you mean by "such arrangement"?

Q. Such as existed in Cleveland and in other cities where there is cooperation between electric power companies and electric transportation companies which are not jointly or commonly owned.

Mr. Browning: Mr. Examiner, I submit that there is nothing in this record showing any arrangement

between electric companies and transit companies except as regards Cleveland and Washington, and other than Milwaukee, and that counsel's characterization of the Cleveland situation is slightly lacking in definiteness and perhaps even accuracy.

Mr. Binford: I believe the question is still proper, whether there is anything in the record about the subject at all or not. The witness has stated, in effect, that he is not familiar with any such situation anywhere. I am merely asking him if, in view of that 5546

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fact, he still feels that he has facts within his possession so that he is sufficiently informed to know whether or not his companies could do as companies in other cities have done where such a situation does exist.

Mr. Browning: My objection or difficulty with the question is the last part of it. It seems to assume that there is some common practice in all other cities between all transit companies and all electric companies. I not only don't know that it is the fact, I 5547 know that it is not the fact.

Mr. Binford: I disclaim any attempt to have such an assumption in the question.

Mr. Browning: Perhaps we could simplify the question a little.

The Examiner: Let's go off the record and see if you can't get that question simplified and submit it to the witness.

(Discussion off the record.)

5548

By Mr. Binford:

Q. I will try to rephrase the question. Since, as I understand it, Mr. Van Derzee, you have had no acquaintance with the relations existing between an electric power company and an electric transportation company in any city in which those two companies were not owned in common, do you feel that you are sufficiently informed to give an opinion

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5549 as to how the situation would work out in your territory if the Electric Transportation Company were owned by someone who did not own nor control the Electric Power Companies? A. That is a difficult question to answer in one sentence. It really requires a review of the number and character of all contacts that Wisconsin Electric Power Company has with The Milwaukee Electric Railway and Transport Company, the examination of the basis of each one, on the strength of which individual analysis conclusions could be reached with respect to that one as to whether I thought if the Transport Company were separate they would

5550 get as good a deal on that particular thing as they now get, and as I have explained in detail in connection with the tie-ins between the Electric and the Railway property, but I will give you one example and I can give you a number more. That relates to the Power contract between Wisconsin Electric Power Company and The Milwaukee Electric Railway and Transport Company.

I don't know whether Mr. Schmidtman made any explanation of that contract or not, but the rate for power contained in that contract is a basic rate of .78¢ per kilowatt hour. That covers the delivery of direct current

service. That means that in the ownership of Wisconsin Electric Power Company must rest all of the power production apparatus required to deliver 600 volt service at the

—2,410—

trolley. That means that the rotary converter sub-stations must be included in the investment of Wisconsin Electric Power Company.

Those familiar with the rates for electric power would know that a rate of .78¢, with minor adjustments up or 5552
down, depending on labor and coal costs, is a reasonably low rate. I don't have the figures charged by other companies, but I heard some of them at the time this matter was being discussed with the Public Service Commission of Wisconsin; my impression is that it is below the average, and that it is probably not common practice to sell direct current service, although some may do it.

In the analysis of the component parts of the cost of power charged by Wisconsin Electric Power Company to the Transport Company is a rate of return on the investment used, which we know and the Public Service Commission 5553
knew, was below the average rate of return charged on ordinary business, but here we were, with one company doing all the business, the formation of a subsidiary to take over the transportation business and the necessity on the part of that subsidiary of having electric power at a reasonable rate.

I think I could say that if the Transport Company were owned by outside interests and they paid us off, that it would be very unlikely that we would invest in sub-station

—2,411—

5554 equipment necessary to convert alternating current into direct current and make a rate anywhere near what we have made.

The relationship between the Transport Company and the Electric Company is naturally a very close one. We want to see it succeed, not at the expense in any way of the Electric Company, but we want to get a return on our investment some day in it if we can. We want to be assured, if we can, that the bond interest will be paid.

5555 The Public Service Commission took into account all of the various aspects of the case when what they thought was a relatively low rate was finally approved.

We have just hosts of other extremely intimate contacts with that company. We operate the telephone system for them. I can't imagine another company operating a telephone system for a transport company just because it is our practice with this familiar arrangement to do things best where they can be done best. That left the telephone system with the electric company.

5556 Ordinarily an independent railway company would have to have its own dispatching telephone system. The Railway Company uses thousands of feet of duct which were all left in the Electric Company when the separation was made.

They use certain rights of way which have been retained by the Electric Company. They use buildings which are owned by the Electric Company. There is an intimate con-

tact in that way which I would question whether any independent companies would tolerate.

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The agreement on the rate of return for the rental of these buildings, and right-of-way and tracks which were still used, which we own, is a basic rental of about 1½ per cent., which varies with the prosperity of the Transport Company. If the Transport Company should earn 3½ per cent. on its own investment, then the return element in the rental for property used by the Transport Company which belonged to the Electric Company would be increased.

I doubt if an outside company, having received its money for its transportation property, would have any notion that 5558
it was up to it or that it would gain any benefit in codling along an operation of that type in the public interest. It would, in my opinion, say, "Well, boys, they have got to have electricity to run the cars or there is going to be no more service. If we are going to make an investment in all this special equipment for a long term of years required only for the railway, we are going to get our amortization costs added on to normal rates for power."

If the separate transportation company wanted to use the duct of the electric company and separation had been 5559
made such as ours, with the ducts all left, certainly that independent electric company would be in a fine position to make a nice trade and it would not be so concerned about getting a 1½ per cent. return so as to foster the business of the trans-

port company, because it would not be worried about getting interest on the bonds of the transport company. It would not be in the position of an owner of a wholly-owned subsidiary.

5560 *Gould W. Van Derzee—By Respondents—Cross*

I could give you examples of joint benefits, I believe, under the present arrangement which nobody would have the patience and time to work out if it was a separate electric company and a separate railway company. Why, we make out the payroll checks for the Transport Company employees because we have facilities for doing it and were doing it when the separation was made, and we do it more cheaply because we have the joint facilities, and decreased unit costs go along with increased volume.

5561 Can you imagine our making out the payroll checks for the Milwaukee Gas Light Company, or doing any one of a hundred intimate operations which they have done for us, which they would not listen to if they were separate?

I could go on about the use of our poles, the reasonable rental charges that do not impose any burden on us but give us some return.

Mr. Binford: Pardon me. Mr. Examiner, I don't like to interrupt the witness, but I believe that these interrelations between the companies were covered

5562 rather fully the other day on direct examination and I would like to have the pending question read, and I don't believe the answer has been responsive to the question.

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The Witness: I think that the things I have said all relate to the very heart of the question, that the things that we do, and I know we do, would not be done if they were separated. That is the whole question.

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Mr. Binford: May I have the question read?

The Examiner: Yes.

(Whereupon a short recess was taken.)

The Examiner: Shall we proceed?

(Whereupon the pending question was read.)

Mr. Binford: I submit, Mr. Examiner, that that can be answered, yes or no.

Mr. Browning: I think the question may be confusing, but as I understand counsel, it is to the effect of whether the witness considers himself qualified by his experience.

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Mr. Binford: Yes, in the absence of outside experience.

The Witness: Yes, I think I am qualified to talk about what would happen if the transportation business were separated completely in Milwaukee from the electric business and there was no common owner.

By Mr. Binford:

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Q. Despite the fact that you have never operated a utility in a city where that situation existed? A. Yes, I think so. You don't, I believe, have to have operated a utility to break down the important contacts that would exist after separa-

tion into their component parts and to compare the benefits that are now being received with respect to those component parts with what could normally be expected in any other place, and when you analyze the situation that we have and find conditions that benefit the Transport Company that are

5566 even a strain on the imagination, such as our making out the payroll checks for the Transport Company, that is just one of a number of cases which, when they multiply as they have in our company, indicate to me that I know enough about this subject to state very flatly that it would not work if we were to separate the Transport Company and the Electric Company in Milwaukee at this time.

Q. I conclude from your general testimony, Mr. Van Derzee, that you believe that in your business the problems
5567 involved in any particular locality, such as the one served by your companies, are so peculiar to themselves that experiences of other companies in other localities is of very little value in arriving at solutions to your own problems. Is that correct? A. No, it is not quite correct. I look at it this way, that it is unlikely that a company which is dealing with another at arm's length is going to make any particular preferential rate, because it has no particular reason for it, that an independent electric company in another city is not going to do a tremendous number of intimate operations for the

5568 independent transport company and at extremely reasonable costs.

There is no particular reason for it. As I stated, the only reason for bringing out a number of specific instances where we do what I think is away out of the ordinary, is to show that in our particular case, if we had the separation, the Transport Company could not expect the same deal it gets now married to us.

I can tell you flatly, with respect to our company, that we would not do all these things that we now do and I don't

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know any other better source of information with respect to the Milwaukee property.

Q. The relations between your electric power companies and the electric transport companies are, however, the subject of State Commission regulations, are they not? A. They are.

Q. Do you think the rate of return and the reasonableness of the arrangements made, insofar as approval by the regulatory body is concerned, are affected by the fact of affiliation? A. Yes.

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Q. You would say that—— A. (Interposing) The history of the regulation of The Milwaukee Electric Railway and Light Company is a long history of what is called joint regulation. It is a matter of public records, and the Com-

mission has so stated that in the past, prior to the separation of the two services of the Company. We are more or less regulated together. They recognize the very important aspect of public convenience and necessity with respect to transportation service. They knew that we had a $1.00 pass fare system that produced very good results and that the public was just married to the $1.00 pass. Anything that would be done to disturb the $1.00 weekly pass in Milwaukee would be very serious.

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Now, since the companies have been separated, as of October, 1939, joint regulation has to some extent continued to go on. When the Commission sent us a notice not long ago giving the return on the electric and railway business, they put a third column in which was the joint return. On account of the history of the situation, they did not want

to disturb any more than they needed to the old policy of joint regulation.

You may know that they permit that the arrangement agreed upon by the bankers that $1,250,000 is set up as a reserve against possible losses in the transportation business after preferred dividends and 1 per cent. return on common stock of the Electric Company.

To a certain extent that is a continuation of joint return. I think that regulation in Wisconsin is keenly conscientious
5573 of the fact that practically the same problem exists, namely

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to give Milwaukee and suburbs good cheap railway service and good cheap electric service together, as existed before the companies separated; so when I tell you that they allow these low rates of return on property devoted to the transportation business, you can understand from what I have said that there is some reason for it.

We, however, have to be a party to that low rate of return, and if you separate the properties, we don't.

5574 The Examiner: Was it 1938 or 1939 that you made the change?

The Witness: October, 1938. I think that is what I said.

By Mr. Binford:

Q. Is it not true, Mr. Van Derzee, that the laboratories of your companies test fuel for companies not in the North American system, and do other testing and reporting work for companies outside the system? A. We have a very small physical and chemical laboratory that grew up almost en-

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tirely for the purpose of supplying the needs of the various departments that purchase supplies. Coal is tested for the company. Various kinds of cloth and textiles are tested. Soaps that we use around the building are tested.

Incidentally, on account of the facilities being available, we have done a small amount of outside testing work. We have done some testing, as I recollect it, for the city,

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in connection with concrete work. Whether or not we do any coal testing for anyone else, I don't at the moment have the information, but the total bottom line figure on the special account for the whole chemical and physical laboratory for the month is of the order of about two or three hundred dollars. It is a mere fly speck.

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Q. In testifying day before yesterday, you testified, as it appears upon page 2,189 of the transcript of record, at the top of that page, to the effect that the important observation that one could make by looking at the table there referred to, which was Exhibit No. 47 of the respondents, was that Wisconsin Gas and Electric Company "was last able to finance its requirements by the sale of bonds at a rate of 3½ per cent., a material reduction from the high of 6 per cent."

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I believe that that statement was possibly clarified by a question which I asked in connection with the Exhibits. You were referring there, I take it, not to any exact saving in cost of money to the company, but to coupon rates, is that correct? A. Yes.

Q. And one is not to draw the conclusion from the Exhibit nor from your testimony, that there was any saving in the actual cost of money to the company bearing any par-

ticular relation to the figures given, in view of the fact that the discount and premium are not shown? A. I was not at-

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tempting to indicate that the saving in dollars of bond interest to service this debt immediately before the refinancing was 6 divided by 3½ times what it was after financing.

Q. Well, what did you mean when you said in the transcript at page 2,189, "But the important observation that one can make by glancing at this sheet is that the company
5579 was last able to finance its requirements by the sale of bonds at a rate of 3½ per cent., a material reduction from a high of 6 per cent."? What was the importance of that observation? A. I was commenting on the drop in the cost of bond money from the highest that the company had ever paid down to the lowest, showing the trends of money rates and the progress that the company had made, obviously, with its credit; that the company, now obviously in a good market, sell its bonds at a 3½ per cent. rate.

Q. You were not, however, intending to imply that the credit of the company had so materially improved that upon
5580 a comparable quality and market of comparable bond prices, the relationship of the improvement is reflected by the 3½ and 6 per cent. figures? A. No.

Q. You realize that there have been recent instances of public utility bond offerings absorbed at a yield of approxi-

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mately 2.8, do you not? A. At the present time, but this was in 1936.

Q. Are you able to state, of your own knowledge, without reference to notes, approximately what the actual yield

to the purchaser, upon the initial sale of the 3½ per cent. bonds, the 3½ per cent. coupon represented? A. That was the transaction of four years ago. I think I testified that I did not handle the intricate financial arrangements that the company made. If it is a figure that you desire, I can readily procure it.

Q. Well, it is true, is it not, that the difference in the price of money, as reflected in bond prices, and in bond coupons, is an important factor in the rate at which your company or any other company can borrow money on bonds? 5582
A. Will you read that?

(Whereupon the pending question was read.)

Mr. Binford: I want to add to that; at one time as distinguished from another time.

The Witness: Well, the rate at which the company can borrow money, of course, depends upon the general level of the cost of money in the market and whatever the company is able to do in that respect is reflected by the credit, and if it gets a low rate, it is an important thing to the company. 5583

By Mr. Binford:

Q. But you don't claim for the companies any particular

credit for the bond market being high at any particular time, do you? A. I would not say that they had anything to do with the bond market being high.

Q. Now, will you please glance at the transcript of your testimony on page 2,218 of the transcript of testimony in

this case. At that point you stated that you participated in a rate case before the Public Service Commission of Michigan, "probably as far back as 1925", and that one of the things you remember particularly about that case, which seems strange at the present time, was that the Commission "thought perhaps the depreciation was a little bit low and agreed that after earning 8 per cent. on the investment we would have to put the balance in depreciation reserve until a certain figure was reached". You added to that, that
5583 "such conditions, of course, were far away and long ago."

From your experience before the Public Service Commission of Michigan, are you able to state when the change of attitude of the Commission in respect of the point at which depreciation could be taken as before or after return on the investment was made by that Commission, if it has changed its attitude? A. No, I can't tell you. As I pointed out, this was probably a peculiar incident in the history of early regulations in the State of Michigan. I am sure from what I hear now that they are undoubtedly pretty well

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5586 lined up with the 6 per cent. idea with a number of the other commissions. I am also reasonably certain that most commissions in our immediate vicinity require adequate depreciation before any dividends are payable and before any pre-determined reasonable rate of return is allowed. I mention this merely as an historical curiosity and not as something that was intended to convey the present conceptions of anyone.

Q. The year 1925, mentioned, though, as being the probable year of the happening of that incident, is correct, is

not it? You say, "probably as far back as 1925"? A. Yes, and I did that because this was a Peninsular Power Company case and I could not have been interested in it until our interests became interested in it.

Q. Which was in 1925? A. That is my recollection.

Q. So that it might have been any time thereafter but not theretofore? A. It was very early in the operations and I think it would be at the other end of the period.

Q. At least you would be of the opinion that it was before 1935? A. I would say perhaps 10 years. 5588

Mr. Binford: Mr. Examiner, I have no further questions in cross-examination of Mr. Van Derzee at this time and I do not expect to have any further

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such questions, but I wish to reserve the right, as in the case of other witnesses, to recall him for further cross-examination should the latter appear appropriate.

Mr. Browning: It is understood, as usual, that we do not concede that right.

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The Examiner: Well, have you any further examination, Mr. Browning?

Mr. Browning: No, Mr. Examiner.

The Examiner: All right, you may be excused, Mr. Van Derzee.

(Witness excused.)

Mr. Browning: We now wish to move for adjournment of this hearing until Monday morning, October 21. We have finished with this testimony in regard

5590 to the Wisconsin-Michigan group of companies and will expect to proceed with another group of companies, in all probability the Union Electric Company of Missouri and its subsidiaries. That is an extensive system, the largest group of properties in some respects that we have had yet to consider, and we will require such an adjournment for adequate preparation.

(Discussion off the record.)

5591 The Examiner: Very well, this matter is now continued until October 21, at 10:00 o'clock a. m.

(Whereupon, at 4:20 p. m., the hearing was adjourned until 10:00 o'clock a. m., Monday, October 21, 1940.)

5592

BEFORE THE

Securities and Exchange Commission

Docket No. 59-10

IN THE MATTER

of

THE NORTH AMERICAN COMPANY, *et al.*

Hearing Room 1102-A,
Securities and Exchange Commission Bldg.,
Washington, D. C.,
Monday, October 21, 1940.

Met, pursuant to adjournment, at 10 o'clock a.m.

Before: W. W. SWIFT, *Trial Examiner.*

Appearances:

S. PEARCE BROWNING, JR., and CHARLES S. HAMILTON, JR., of Sullivan & Cromwell, 48 Wall Street, New York City, Attorneys for the Respondents.

RALPH C. BINFORD, ARTHUR J. BUSWELL, and E. M. CALKIN, Attorneys for the Securities and Exchange Commission.

5596 *Stanley Stokes—By Respondents—Direct*

PROCEEDINGS

The Examiner: The hearing will come to order.

Mr. Hamilton: Mr. Stokes.

Whereupon, STANLEY STOKES called as a witness on behalf of the Respondents, being first duly sworn, was examined and testified as follows:

Direct Examination by Mr. Hamilton:

5597 Q. Will you give your name and address to the reporter? A. My name is Stanley Stokes, address 7171 Washington Avenue, University City, Missouri.

Q. And will you state your present connection with Union Electric Company of Missouri, and its subsidiaries, and also outline your experience, your business career, with those companies? A. My present position with the Union Electric Company of Missouri, and subsidiaries of that company, is that of consulting electrical engineer.

In that capacity we have a department of engineers there who supervise the major developments in the system en-
5598 gineering. This includes planning for power plant requirements, main system changes of any kind to take care of the growth of load.

I came with this group of companies in 1912, having graduated from Missouri University. I took a five-year

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course there, and obtained the degree of Electrical Engineer.

My first work with the company was in construction work, in which I was engaged for about a year and a half. Following that, I then was placed on some cost analysis work

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to determine unit costs of various types of construction, including the job which we had just completed which at that time represented the receiving substation at the St. Louis end of the Keokuk transmission lines.

That cost analysis work went on for some months, and from there I went into a short bit of work on some rate schedule preparation.

During the next six months, I was engaged on various applications, among which was the development of some studies leading toward the use of gas-house-heating for the St. Louis County Gas Company.

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My next operation was to handle sales engineering work for power sales. We call it the power sales division to distinguish it from the residential and smaller types of sales work.

In that work it was necessary in those days to do our own construction, on the customers' premises; in other words, to make him a proposal to change his motors or change over from steam or some other form of power, to electricity.

So I had a combination there of sales and construction work.

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In about 1917 the company (meaning this group of companies) decided to expand their operations into the adjoining counties surrounding the City of St. Louis, and St. Louis County. I was placed in charge of the new district, and built the transmission lines out to those adjacent counties, and took over operations one at a time, as the additional counties were taken on.

My title then was General Superintendent of Outlying Divisions. That work was continued for several years, until about 1925. During that period I was in complete charge of the operation and construction of those properties, which were handled as a seperate unit, not a part of the city group. During the developmental period it was difficult to do it any other way.

As we had then completely connected the various towns and counties to which I referred, I then moved back to the
5603 St. Louis district, having been located at Festus, Missouri, a town about 35 miles South of St. Louis, while that work was going on; and I was then referred to as Assistant to the Vice President, and retained that title until about 1931.

There was another assistant doing similar work, there were two of us. My work was mostly of a technical nature.

In 1931, the growth of the company had been rather rapid during the period leading up to 1929, and the engineering requirements for plant expansion and system expansion had become more or less predominant from my

5604 viewpoint, and I gradually shifted almost entirely into the engineering phase, and at that time my title was changed to Consulting Electrical Engineer—which it is today.

Q. You have been employed continuously by Union Electric Company of Missouri, and its subsidiaries, or its predecessor company, since 1912, have you? A. That is correct.

Q. And you have held no other position, other than with the Union Electric or its subsidiaries or predecessor company? A. That is right, I have had no other position. The

title itself is a little misleading because I do put in all of my time for the company, I have no outside consulting work.

Q. Are you personally familiar with the properties of Union Electric Company of Missouri and its subsidiaries? A. Yes, I am.

Q. And are you also personally familiar with the operations of those companies and the problems arising out of the operations of those companies? A. Well, to the extent that any one individual can say that he is familar with a large company of that type, I think I can say so, yes. 5606

Q. Now in order that we can be clear as to the names

and relative relationships of the companies as to which you are testifying, will you state the subsidiaries, the names of the subsidiaries of the Union Electric Company of Missouri? A. Union Electric Company of Missouri is an operating company, and at the same time has subsidiaries. The subsidiaries of the Union Electric Company of Missouri include the following companies: Union Electric Company of Illinois; Mississippi River Power Company; Iowa Union Electric Company; Cupples Station Light, Heat and Power Company; St. Charles Electric Light and Power Company; Lakeside Light & Power Company; Union Electric, Land & Development Company; St. Louis and Belleville Electric Railway Company; St. Louis and Alton Railway Company; East St. Louis and Suburban Railway Company; East St. Louis Railway Company. 5607

These two latter companies are in the process of dissolution or sale. Of those companies mentioned, there are six subsidiary electric companies. I repeat, to make this

entirely clear, the six electric companies are: Union Electric Company of Illinois; Mississippi River Power Company; Iowa Union Electric Company; Cupples Station Light, Heat and Power Company; St. Charles Electric Light and Power Company; and Lakeside Light and Power Company.

In the material which follows we refer to the Union Electric Company of Missouri and these six electric companies (seven in all), as the Union Electric Group. The other companies mentioned previously will be referred to by
5609 individual names. —2,431—

In addition to the subsidiaries which I mentioned as directly under Union Electric Company of Missouri, there is another company, Union Colliery Company, a coal company. It is a subsidiary of Union Electric Company of Illinois. In addition to these companies, the St. Louis County Gas Company is a gas company doing business in St. Louis County, and is not owned by the Union Electric Company of Missouri, but by the North American Company.

Q. And the St. Louis County Gas Company is operated, is it, in general by the same management? A. It is, it is
5610 operated just as one of the other group, by the same personnel, and very closely related to the other properties, but is separately owned.

Q. Will you state whether the name of the parent company was changed to Union Electric Company of Missouri in 1937? A. In 1937 the name was changed to the Union Electric Company of Missouri, from Union Electric Light & Power Company. It is the same company, essentially, as the previous Union Electric Light & Power Company.

Mr. Hamilton: I ask that this document be marked as Respondents' Exhibit No. 51 for identification.

5611

The Examiner: It may be so marked.

—2,432—

(The document referred to was marked "Respondents' Exhibit No. 51 for identification".)

By Mr. Hamilton:

Q. Mr. Stokes, will you state what this exhibit represents? A. This exhibit represents the system of the Union Electric Group.

5612

Q. Is the information shown confined to Electric facilities? A. It is. The system as shown on here includes an area——

Q. (Interposing) Before you specify as to that, I simply want it identified.

Will you state whether the exhibit has been prepared under your supervision? A. It has.

Q. And the facts shown as to the electric facilities of the respective companies have been taken, have they not, from the records of the respective companies? A. They have.

5613

Mr. Hamilton: I offer it in evidence as Respondents' Exhibit No. 51.

Mr. Buswell: No objection.

The Examiner: It is admitted in evidence under the number assigned it.

—2,433—

(Respondents' Exhibit No. 51 was received in evidence.)

5614 *Stanley Stokes—By Respondents—Direct*

By Mr. Hamilton:

Q. Now I note from the map, Exhibit 51, that no electric service is indicated for the Mississippi River Power Company. Is it correct that that company has no distribution facilities? A. That company has a certain number of large industrial customers located mostly right at or near the dam, but——

Q. (Interposing) By the "dam", do you mean Keokuk?
5615 A. The Keokuk Dam and power plant, in that immediate vicinity.

But the general service in that community, distribution to the public at large, is handled by the Iowa Union Electric Company.

Q. And is it true that such customers as take service from the Mississippi River Power Company take service at primary voltages from the transmission lines? A. They do, they take service from the Power Company at primary voltage of somewhat higher than the ordinary distribution voltage, it may be 11,000 volts to 13,000 volts, and up.

5616 Q. Now will you state very briefly what facts are shown in the exhibit? A. This exhibit portrays the system of the Union Electric Group which extends from Burlington, Iowa,

—2,434—

on the north, southward along the Mississippi River to St. Louis, and further south to Fredericktown, a distance of approximately 220 miles.

It also extends from East to West, about 150 miles. On the West it terminates at the power plant and dam of the Osage Hydroelectric Plant. At that location there is shown a small hatched area, which represents the service area of

the Lakeside Light & Power Company, a small company which supplies some local service for the benefit of that particular district.

On the east, it extends to and including certain areas in Illinois adjacent to St. Louis, including the City of East St. Louis.

The transmission lines interconnecting these areas are shown on the map. The cross-hatched portion indicates that the service there is dense, and it would be impracticable to show all of the lines in that area. 5618

Q. Now will you state at what voltages transmission lines appearing on this map are shown? A. The lines there represent merely high voltage main circuits. For example, the line from Keokuk down to St. Louis is a 110,000 volt line, and the lines shown out to the Osage plant from St. Louis are 138,000 volts.

Q. Are all lines shown above a specific voltage? A. There are no small distribution lines shown on this map, the lowest

voltage at which any is shown is 33,000 volts, and your statement is correct. 5619

Q. Now in order to interpret very briefly the legend, I note at Keokuk the letters "C-H". Will you state the meaning of that legend? A. Well, "C" as shown in the legend, represents the Mississippi River Power Company, and "H" stands for hydro, or hydro-electric. So a rectangle marked "C-H" means a hydro-electric plant owned by the Mississippi River Power Company.

Similarly, letter "A" stands for Union Electric Company of Missouri, and its subsidiaries, or the Union Electric Group.

5620 "B" stands for Union Electric Company of Illinois.

"D" stands for other subsidiaries of the group.

"S", similarly, stands for steam, corresponding to "H" for hydro.

So, for example, a plant marked "B-S" would be a plant owned by Union Electric Company of Illinois, and a steam plant.

Q. All right. Now just one further explanation, if you will. A number of figures appear on the map, such as "D-10",
5621 appearing in Lee County, Iowa. Will you state the significance of that particular legend? A. In the legend, number 10 refers to a company marked Denmark Light & Telephone Company, this being one of a number of companies, a number of utilities, which buy service from the Union Electric

Group. And "D" means that it is sold by one of the subsidiaries.

Q. Of Union Electric Company of Missouri? A. Yes. There are others in a similar situation who buy power from the group. They will be described later.

5622 Q. Now will you state the aggregate square mileage of the territory served by the Union Electric Company Group? A. The Union Electric Company Group serves a total of about 3100 square miles in actual coverage, with their own distribution system. This does not include areas in which their power flows due to sale to other utilities.

Q. And the population, if you will, of that 3100 square miles? A. Well, the population of that area is—well, as nearly as I can estimate it—there is no exact designation such as Census figures, for the 3100-mile area—but as near

5623

as I can estimate it, it is about 1 million and a half population.

Exact figures, for example, in the 1940 Census, would give St. Louis 813,748 population, and we have the population figures for other more or less important towns and communities in the area.

Q. Now in addition to the City of St. Louis, how many counties are served by the group with electric service? A. This group serves all or part of 15 counties in three States.

5624

—2,437—

Q. May I ask, before you enumerate the counties, whether the City of St. Louis proper is located in any particular county, or whether it is a separate entity? A. The City of St. Louis is a separate entity. It is peculiar in that it is a county itself, it is its own county. St. Louis County, which surrounds the City of St. Louis, does not include the City itself.

Q. Now in order to clarify the exhibit, Exhibit No. 51, will you very briefly state the counties in which electric service is furnished by the Group? A. The counties in which the Group furnishes electric service are: In Missouri,—Camden, Miller, Morgan, St. Louis (referring to St. Louis County); Franklin, Jefferson, St. Charles, St. Francois, Madison, Washington—and in those last two counties the service is only partial.

5625

In Illinois,—Madison County, St. Clair, Hancock, Henderson.

In Iowa,—Lee County.

Q. I think you gave Madison County twice. A. I did. There is a Madison County in Missouri, and a Madison

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County in Illinois. We only have a very small amount of service in Madison County in Missouri.

Q. Now in this distribution territory, how many communities are served by the group? A. Well, they serve

—2,438—

directly 114 cities, towns, villages and unincorporated communities. These range from small communities to pretty large cities.

For example, I could summarize the relative size of these
5627 communities as being 22 communities of less than 250 population; between 250 and 1,000 population—47; between 1,000 and 5,000—30; between 5,000 and 10,000—6; between 10,000 and 25,000—5; and from 25,000 to 50,000 population—2; from 50,000 to 100,000—1; and over 100,000 population—1. That totals 114.

Q. And will you state very briefly the names and give the population, if you are able to, of the more important communities included in that list? A. Well, first and foremost, of course, is the City of St. Louis itself, which I previously mentioned as having a population of 813,748.

5628 Where these population figures are stated, we are using the 1940 Census when available, and where it is not available, it refers to the previous Census, 1930.

In St. Louis County, we can mention Clayton, with a population of 13,872.

Mr. Buswell: Will you state whether that is the 1940 Census figure or the 1930 Census figure?

The Witness: All right. That particular figure is a 1940 Census figure.

—2,439—

By Mr. Hamilton:

Q. Follow that procedure, if you will? A. Kirkwood, the 1940 Census is 12,087; Maplewood, 1940, 12,833; Brentwood, 1940, 4,334; Ladue, 3,976, 1940 Census.

Others in there could be mentioned, such as Berkeley, 2,577.

Now I will go a little further. In University City, which is a suburb of the City of St. Louis, and also located in St. Louis County, we have a town of 32,863, 1940 Census 5630 figure.

Webster Groves, also in the same county—18,328, 1940 Census. There are other towns, such as Wellston and Normandy, which run from 2,500 to 7,400. That illustrates the type of cities found in St. Louis County.

In Franklin County I can mention four, being all of the important towns in that county. They are: Pacific—1,666 (all four of these being 1940 Census figures); Saint Clair—1,410; Union—2,099; Washington—6,635.

May I explain that those other towns previously mentioned as Normandy and Wellston, where I did not give the 5631 exact figures, those were from the 1930 Census, but all of the larger ones I mentioned were from the 1940 Census.

Now in Jefferson County, we have Crystal City—3,416, 1940; De Soto—5,117, 1940; Festus—4,612, 1940. There are other towns there smaller, and we have not the 1940 figures

—2,440—

available.

St. Charles County has only one town of any size. That is St. Charles itself, with 10,807 population, 1940 figures.

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St. Francois County, which lies to the South: Bonne Terre, 3,740, 1940; Flat River—5,403, 1940; and Elvins—2,403, 1930 Census. Elvins is mentioned because it is a rather important mining town down there.

Q. What kind of mining? A. Lead mining, what they call a variegated lead district.

Now in Illinois, Saint Clair County, it contains East Saint Louis, with a population of 75,469, 1940 figures; Washington Park—3,837, 1930 Census—and others not
5633 large enough to mention.

Madison County contains Alton—30,151, 1930 Census—later figures not yet available; Roxana, a small community of 1,139, 1930 Census, but mentioned because it contains some very large industrial concerns, such as the Shell Oil Corporation Refinery, and others.

Hancock County: Dallas City, Hamilton and Warsaw, are three communities running slightly under 2,000 population, 1930 Census.

In Iowa, Fort Madison is located in Lee County, and has
5634 a 1940 population of 14,049; and Keokuk, with a 1940 population of 15,015.

—2,441—

Q. Now all these cities which you have specifically referred to are served with electric service by the Union Electric Group, is that correct? A. They are, all that I mentioned, and many others that I did not mention.

Q. Now will you state the total number of electric customers of the Group, and indicate, if you will, the general classification in which they fall? A. The Union Electric Group had, as of May 31, 1940, 351,565 customers of all

classes. To segregate these into classes, we divide them into, first, residential—309,698. All these figures, now, are as of the same date. This residential group are being again subdivided into two divisions: first, urban and suburban group —294,998; rural—14,700. Those two figures make up the 309,698 residential customers.

Then the small light and power classification—41,377.

Large light and power—412.

Public street and highway lighting—51.

Other public authorities—8. 5636

Other utilities—15.

Municipal distribution systems—3.

Electric railways—1.

That total equals the original total of 351,565.

Q. Are you able to classify that aggregate figure which —2,442— you have given by geographic districts within the territory? A. In St. Louis and vicinity there are 339,825 customers; in Keokuk and vicinity—11,403; in Lakeside and vicinity—337.

Q. Lakeside and vicinity being the territory shown on 5637 Exhibit No. 51 as the hatched territory around Osage? A. Yes, it is out here to the left. That is simply a service rendered to a little local community surrounding the Osage Dam.

The Examiner: Those two lines that lead from Osage, are they of 138,000 volts each?

The Witness: Yes, those are two routes. On each of those routes there are two circuits. On the northern route there are two independent single-circuit lines, and on the southern route there is a double-cir-

5638 *Stanley Stokes—By Respondents—Direct*

cuit steel tower line. Yes, those are 138,000 volt transmission lines from the hydro plant to St. Louis, going, one of them, by way of Rivermines. That is explained by the fact that we have a load there of around 30,000 kilowatts from the St. Joseph Lead Company, and some condensers are located there for voltage control. Then we supply service to our own district at that point.

5639 *By Mr. Hamilton*:

Q. Now in addition to the electric service, at the cross-hatched area shown on Exhibit 51, does the company make

—2,443—

sales of electric energy to other purchasers in the general territory? A. Yes, they do. They sell to 15 neighboring utilities, and three municipal distribution systems.

Q. Now those sales are by the Group, are they? A. Information is available with respect to each company.

Q. Will you give that information? A. By reference to the exhibit, we have the Iowa Southern Utilities Company—
5640 that is No. 14 in the legend—and its point of delivery of service is at Burlington, Iowa, shown on the map at the extreme northern extremity, and marked "C-14". Is that clear?

Q. Yes, go ahead. At that point we sell to that company 22,790,600 k. w. h., or rather, sold to that company that amount in 1939, which is used in Burlington, and the surrounding territory.

Mr. Buswell: You say "we sell"?

The Witness: Union Electric Group sells.

 5641

The next company is the Wever Electric Company, and it is No. 13 on the exhibit, and makes its sale at the point marked "C-13".

By Mr. Hamilton:

Q. That indicates the sale by Mississippi River Power Company? A. Yes, they purchased only 75,080 kilowatt

—2,444—

hours in 1939.

Q. The delivery, however, was by the Mississippi River 5642
Power Company? A. The delivery in that case is by the Mississippi River Power Company.

Q. As indicated by the symbol "C"? A. By the letter "C".

The next company to be mentioned is the Denmark Light & Telephone Company. They are shown as No. 10, and delivery is made at "D-10", which is on a line there right near the name "Fort Madison". There is a little arrow that points down to it. They took 243,227 kilowatt hours in 1939.

Iowa Electric Company, No 11, purchased 2,886,990 kilo- 5643
watt hours in 1939, and it was delivered to them at the point marked "C-11", which is a delivery from the Mississippi River Power Company.

The town of West Point is a small village lying west of Fort Madison, and it purchased service for their municipal distribution system which comes out of a sub-station in Fort Madison. That was 291,570 k. w. h. in 1939.

Then Van Buren Light & Power Company, No. 8, purchased 1,022,320 k. w. h. in 1939, and can be readily seen

there as "C-8", on the exhibit, showing point of delivery. That service provides electric facilities to a large part of Lee County in the part which we do not directly serve.

—2,445—

Illinois-Iowa Power Company at Hamilton and Dallas City—that is No. 4—provides service to a territory north and east of Keokuk, toward Galesburg, Illinois, and purchased 41,748,740 k. w. h. in 1939.

Central Illinois Public Service Company, at Keokuk,
5645 Hull, Quincy and Meppen, provides service to a large area in West Central Illinois, and they purchased, as shown on the exhibit, marked No. 6 in the legend, 51,422,070 k. w. h. in 1939.

A small company known as Appanoose Light & Power Company purchased 5,560 k. w. h. in 1939. They are marked No. 12 on the exhibit, and are shown as "D-12", which indicates that they were supplied from other subsidiaries. As a matter of fact, they are supplied from the Iowa Union Electric Company.

Montebello Electric Company took 35,280 k. w. h. in 1939,
5646 and are marked No. 7 on the exhibit. They provide service to a territory in Hancock County, which is not very heavily settled, and in which we ourselves do not have the distribution.

Missouri Power & Light Company are supplied service at Keokuk and Ilasco, and provides service to a large area in Northeast Missouri.

Q. Will you state the point of delivery? A. The point of delivery is at Hull for this Ilasco delivery, and at Keokuk —no, this particular one, the Missouri Power & Light Com-

pany, the major part of that delivery is at Keokuk, and the

service is used in Northeast Missouri. The amount was 7,168,500 k. w. h. in 1939.

Now that point of delivery is about 10 miles—No. 5—out from Keokuk.

Illinois-Iowa Power Company at Cahokia, and Venice—now I have moved down to this bigger area—provides service to a large area in South Central Illinois. The service taken in 1939 amounted to 252,676,900 k. w. h. 5648

Q. Now is that figure, Mr. Stokes, exclusive of the figure which you have previously given for delivery to Illinois-Iowa Power Company? A. It is. The previous figure was for delivery at Hamilton and Dallas City, which is up near Keokuk, whereas this delivery is near St. Louis. This is indicated by the same number—4—and is shown as "B-4", right to the right of the main part of the City of St. Louis. The word "Venice" is shown on the map, and just above it are the letters "B-4", indicating the delivery to the Illinois-Iowa Power Company at that point. That is a large delivery.

East Missouri Power Company took 498,175 k. w. h. in 5649 1939, indicated by No. 18—a small sale.

Missouri Electric Power Company took 4,092,990 k. w. h. in 1939. That is indicated by No. 17, on the exhibit.

Arkansas-Missouri Power Corporation took 5,373,036 k. w. h. in 1939. That is No. 16. That point of delivery is right, not far from St. Louis. That is "A-16", sold by the

Union Electric Company of Missouri. It is almost down to Madison County.

5650 The City of Farmington, which is in that same district near this last point of delivery, took 2,496,600 k. w. h. in 1939. It is marked as No. 2, and shown just south of Rivermines, as "A-2". It was sold by the Union Electric Company of Missouri.

Western Light & Telephone Company took 587,400 k. w. h. in 1939, and that is shown as No. 15 on the map. That is a small concern that buys a little power from Lakeside, near the Lakeside area. You will find it out at the extreme west
5651 of the map. They provided service adjacent to that served by the Union Electric Group.

Q. And that point of delivery is shown on the map as "D-15", is it not? A. That is right. It comes off of the little red square indicating the hydro plant there in the middle of the Lakeside Light & Power Company hatched area.

That completes the list of electric companies and municipalities buying service.

This area which the company serves is a relatively high load density area, taken as a whole.

Q. Mr. Stokes, I think you may not have mentioned the
5652 deliveries to the City of Kirkwood appearing on Exhibit No. 51 as No. 1. Will you locate that point of delivery and give

the sales? A. It is immediately west of St. Louis, and is marked "A-1". The City of Kirkwood took 7,573,400 k. w. h. in 1939. It is a suburb of St. Louis, located a few miles west.

Also, Nauvoo Electric Light & Power Company, shown as No. 9 on the exhibit——

Q. (Interposing) Is that point of delivery near Keokuk? A. Yes, it is. I am looking for the k. w. h. It is

between Keokuk and Fort Madison, marked "C-9", and is a very small concern served by the Mississippi River Power Company at the point indicated. Nauvoo Electric Light & Power Company took 331,850 k. w. h. in 1939.

Q. I interrupted your comment on the load density in the area served. Had you finished your statement in that regard? A. Well, I could expand that thought a little bit.

The Union Electric Group would, in my opinion, be regarded as what could properly be described as a metropolitan electric company, because the majority of its property is in or adjacent to a large city. In 1939, the Union Electric Group produced a total of 2,579,520,155 k. w. h., of which 401,412,412 k. w. h. were sold to other utilities for resale, leaving 2,178,107,74? as the production for its own customers in an area with a total estimated population of about a million and a half persons. 5654

—2,449—

Q. Now those figures you have given on output are group figures, are they? A. Group figures for the Union Electric Group.

Q. And when you have spoken of generation, have you spoken of net output; in other words, your figure of two billion plus, which you last gave, is a net output figure? A. That is probably a gross output figure, that is, our records on the whole are the output from the main generating unit, and I would call that figure a gross output figure. 5655

To illustrate the comparison with the general public use in the United States, which comparison may not be of any particular moment, but for such as it is worth, the report of the Federal Power Commission indicated 128,037,-

000,000 k. w. h. for 1939, with a total population of 131,060,000, approximately. With these figures we conclude that the Union Electric Group produced about 1.7 per cent. of the electric production in the United States, and supplied it, supplied that service to about 1.15 per cent. of the population, indicating that we were somewhat above the average density of the country as a whole.

Q. Now is the greater portion of the electric load concentrated in and about the City of St. Louis? A. It is,
5657 yes. The majority of all of the load is sold in St. Louis and vicinity. The area which I would consider as the vicinity

of St. Louis has been referred to as the metropolitan district. This area, which was established by the United States Census Bureau, comprises 821½ square miles, and includes the City of St. Louis, and a major portion of its surburban territory. It is the center of a more extensive trade territory or region, which includes districts having a general radius of about 40 miles from St. Louis. These references are used by the Chamber of Commerce and others when
5658 describing the trade territory.

St. Louis City has actually lost a little population within the city limits during the past decade. The flow of population has been from the city to St. Louis County. Its population in 1930, in the 1930 Census, was 821,960, and it is now 813,748. But whereas the City has been losing, St. Louis County has gained, and has increased its population in the last 10 years by 61,114. Its present population is 272,707, compared with 211,593 ten years ago, an increase of 28.9 per cent.

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St. Louis has not extended its city limits in all these many years, as a good many cities have.

St. Louis and St. Louis County, both combined, account for a population of 1,086,455. If you took both together, it would indicate a 5.1 per cent. growth in the last ten years.

It, in general, is pretty well suited for industrial operations. The valley is well placed for railroad connections,

and the river furnishes water supply, and out of the district's population from the 1930 Census of 1,335,158 persons, I would take that to be a rather general figure, it is assumed that 154,000 were employed as wage earners in the factories. Those figures were obtained from the 1930 Census, but the exact area to which they apply is not completely, fully designated.

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We have estimated 162,555 gainfully employed workers in manufacturing and mechanical industries; 85,383 in trades—that means having divided the general industry as a whole into about 10 classifications, those are the two largest ones for the St. Louis district. Others are very much less important.

5661

Q. Now is there any one industry that predominates in the St. Louis industrial area? A. Well, St. Louis is a leader in the shoe manufacturing business and in the printing business—those are the two rather large industries. We don't forget that we make lots of beer, but I should say that the shoe business and the printing industry probably represent the major businesses. We are somewhat of a railroad center. Shall I describe the railroad or transportation facilities at this point, or shall I let them go?

5662 Q. Well, before you leave this general question of the concentration of industry in St. Louis, are you able to state any statistics as to the representation of industry in the St.

—2,452—

Louis area? A. Yes, I could give a few illustrative examples.

Before leaving the population figures entirely, I would like to mention the persons per quare mile in the metropolitan district previously referred to, as 1,544, and in the City of St. Louis, as 13,333. That is not an extremely high

5663 density.

Now with respect to the industries, St. Louis has a diversified business, it doesn't manufacture just one thing like automobiles, its load characteristics are rather typical of the nation as a whole, and if you were to divide the industrial activities of the nation into 18 divisions, which has been done in some studies, we would find a number of them represented in every one of those.

As an example, if we took one division as food and kindred products, we would find the Union Biscuit Company as representative of bread and other products; the Standard

5664 Tilton Mill Company, a large flour mill company, representing the grain products.

In textiles, the Ely-Walker Drygoods Company is a typical representative. It is a very large manufacturer of men's shirts and kindred products.

In forest products, we have a number of box companies, and a casket company represented by the St. Louis Casket Company; and the National Chair Company makes chairs. The Loy-Lange Box Company is a large maker of boxes.

—2,453—

Paper and allied products is quite an industry in St. Louis, represented by two large concerns, the Graham Paper Company, and the Orchard Paper Company.

Printing and bookbinding, and lithographing has the *Woodward-Tiernan Printing Company*, among others.

Chemicals and allied products, carbide: Midwest Carbide Corporation. That is not at St. Louis, that is at Keokuk, but I mention it here because it is one of our large customers.

5666

The National Lead Company and the Monsanto Chemical Company are good examples.

In the oil or petroleum refining business, we have the Shell Oil Company, which is one of our large customers, located at Wood River, a few miles north of St. Louis.

The rubber goods—there is a boot and shoe manufacturer, the Cupples Company, making some tires and rubber goods, and they are also a customer of ours.

And so on. We have Keokuk Steel Casting Company. That is one of the largest industrials, which was referred to a while ago as being direct customers of the Mississippi River 5667
Power Company. It is an electric furnace production.

In connection with the Carbide, they also manufacture 50 per cent. ferro-silicate which is used in a number of applications, it is used for making some kinds of bearings.

Aircraft and transportation—we have the Curtiss-Wright Corporation, manufacturing aircraft. They are undergoing

a very large expansion at this moment, to increase the capacity of their plant by a very large amount, and they

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are adding what is estimated to be from 8,000 to 10,000 employees.

American Smelting and Refining is a good example of a non-ferrous metal. That is a big smelter, really connected with the St. Joe Lead Company.

We have glass business on a large scale. At Alton, Illinois, we have the Owens-Illinois Glass Company, which makes bottles and glass bricks. At Crystal City, Missouri, 35 miles south of St. Louis, we have one of the main fac-

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tories of the Pittsburgh Plate Glass Company.

There are, in addition to those industries, which are widely diversified, some heavy industries, among which I will classify the glass companies and the St. Joe Lead Company, the largest lead company in America, which operate a smelter at Herculaneum, which is just south of St. Louis, where we have extensive service. They also have the large mines in St. Francois County, which is indicated by the word "Rivermines" on Exhibit No. 51, as being about the center of the mining district.

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We have building materials, packing companies, Armour Packing, and others.

So that St. Louis did not have as radical a change in load during the depression as some of the other cities where the industry was not so diversified.

—2,455—

Q. Now are there natural resources in the territory which have contributed to the industrial development of the territory? A. Yes, I suppose all territories are controlled by their natural resources in the long run. The St. Louis region has certain topography characteristics which make it what

it is. The region as a whole is valleys and uplands, it is the broad river valleys of the Mississippi, Meramec and Missouri Rivers. They flow over deep beds of alluvium, and constitute extensive flood plains which are limited by abrupt bluffs as you get to the edge of the river valleys. There is another small river there known as Big River, which meanders over a considerable part of the country and is otherwise similar to the Missouri.

The characteristic feature of the general landscape is the level of the uplands, which were a part of the Great Plains 5672
originally. The general elevations are about 800 feet on the bluffs up north of St. Louis, around Alton, and from 7 to 9 hundred feet will probably catch the highest elevations, and around 500 and thereabouts the lowest.

There are very little unbroken areas, I mean there are very little areas that are broken so that railroads can't conveniently utilize the area. They can follow the valleys of these big rivers continuously, and I will illustrate a little later the extent to which the railroads have utilized this area.

—2,456—

It is also very suitable not only for railroads, but for 5673
terminal facilities, and large industrial plants. The water supply is favorable.

As you go west and northwest of the city, you get into a rolling farm country with some rugged area, as you approach the Missouri River bluffs, which are off to the west and north. As you go south and southwest, you get into the Ozarks, which are just rough and rugged little mountains, but they don't go much above 1,500 feet maximum height.

The prairie lands, of course, are used for agricultural purposes, just like the rest of the Mississippi Valley. The

underlying geologic structure is sedimentary and rests on what is known as Archean Granite. The upper part was deposited by the rivers, and a gradual influx of the top soil has produced some very fertile valleys, washed in there by the action of the streams.

The loess, which covers the upland to a depth of from a few feet to 50 feet, is used in the manufacture of brick. It is very good for fire clay as well as common brick.

We have a lot of gravel formation used for the gravel in-
5675 dustry extensively. It is particularly good concrete gravel in that area. The Mississippi gravel is not quite as good as the Meramec. Then we have the coal strata, which extends primarily out through the Illinois region, and that is well

known.

We have the coal layer, and then the shales and the clays, all of which are used extensively for terra cotta, sewer pipe, paving brick, tile, and some of those shales in limestone are used in the manufacture of cement. We have two large cement industries immediately in the St. Louis
5676 area, and another very large one up between there and Keokuk.

Oil has been discovered in Illinois, the location, generally speaking, being about 60 miles east of St. Louis, and a little bit south. There has been no oil of consequence discovered right close to St. Louis, although at the little town of Dupo, 10 or 15 miles south, on the Illinois side, they pumped some shallow fields there for a number of years.

Q. You have spoken of deposits of lead; where are those found? A. They are found mostly in St. Francois County,

with Rivermines as the center, as shown on this exhibit. I believe that I am correct if I say that the St. Joseph Lead Company is the largest lead mining company in the world. I am sure it is the largest in this country, and it has very extensive mines down there covering a large area. As I recall it, there are 12 or 15 miles of underground electric railway haulage where they carry the ore underneath the ground, and bring it to a central shaft for elevating it to the surface. They have a number of concentrating plants, crushers, located at all of those different towns, such as 5678

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Bonne Terre, Elvins, Flat River, Leadwood, and others. The St. Joseph Lead Company is a very large user of power.

To give an approximate idea of their use, without disclosing any figures that would be personal to them, I can say that their peak load runs in the neighborhood of 26 to 30 thousand kilowatts, and when the lead business was good, as it has been in the past, and which it is now again becoming in the last three months, they run continuously. That represents a lot of money in one month.

Q. Now without going into great detail, will you indicate 5679 the transportation facilities available in the territory? A. As I said, with regard to the topography, the railroad facilities were good from the standpoint of construction of railroads, because of the way that the valleys and rivers ran, and in the early days, the railroads began to build in there. At the present time, St. Louis is served by 19 trunkline railroads, 3 short-line railroads, and 5 railroads engaged exclusively in switching. The aggregate main track mileage operated by these trunklines is 95,200 miles, or 34.48 per

cent. of the total miles of track operated by Class 1 Railroads in the country. That total miles, by the way, is 275,506.

The trunklines, most of which terminate in St. Louis,

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I believe all of them,—and I don't mean that they just go through there, but that in most cases is the terminus of their line—are the: Alton Railroad; the Baltimore & Ohio Railroad Company; Chicago & Eastern Illinois Railway Com-
5681 pany; Chicago & Northwestern Railway Company; Chicago, Burlington & Quincy Railroad Company; the Chicago, Rock Island & Pacific Railway Company; Cleveland, Cincinnati, Chicago & St. Louis Railway Company—that is usually known as the "Big Four"; Illinois Central Railroad Company; Illinois Terminal Railroad System; Louisville & Nashville Railroad Company; Missouri, Kansas and Texas Railroad Company; Mobile & Ohio Railroad Company; New York, Chicago & St. Louis Railroad Company; the Pennsylvania Railroad Company; the St. Louis, San Francisco Railway Company; St. Louis, Southwestern Railway Company;
5682 Southern Railway Company; Wabash Railway Company.

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In addition to those trunk lines there are short lines: Litchfield and Madison Railway Company; St. Louis and O'Fallon Railway Company; and St. Louis and Ohio River Railroad Company.

Then the switching companies are: Alton and Southern Railway Company; East St. Louis Junction Railroad Company; Manufacturers Railway Company; Missouri-Illinois Bridge and Belt Company; Terminal Railroad Association of St. Louis.

All those lines are available to St. Louis and switch in the yards there. As a matter of interest, we recently had a fire in the terminal control station which controlled all of those trains coming in and out of that yard, and it burned up all the signal systems, and it became quite a major problem to keep the yard operating. They adopted some very interesting expedients with loud speakers at every switch throughout the yard, had men stationed there, and a man at some central point to give his orders, and the switching men would hear them over these loud speakers and operate the switch. 5684
Although they had a disturbance for six or eight hours, ten or twelve hours later they had the service going with fairly good results. They are building a new terminal switching station there now.

In addition to the railroads I should have river transportation. St. Louis is situated on the Mississippi River, Inland Waterway System, and that consists of a series of navigable rivers and canals having a total mileage of 13,394 miles, and connecting by water 29 of the principal industrial centers of 20 states in the Mississippi River Valley.

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There has been considerable activity in the river transportation recently, and completion in 1932 of dams and locks on the Illinois and Des Plaines Rivers, and the Illinois Waterway Canal provides a 9-foot channel connecting St. Louis to Chicago and the Great Lakes system of waterways.

The latest project on this Inland Waterways System is the construction of 26 dams and locks on the Mississippi River between St. Louis and Minneapolis.

They were completed in 1940 to provide a 9-foot navigable channel between those cities. I recall that the estimate on

about 24 of those dams was $132,000,000-odd, and it has been materially increased since then.

We have four airlines available to St. Louis.

I would like to mention one other item of interest in connection with transportation, which indicates the extent to which bus line transportation has developed.

A total of 367 truck lines, operating out of St. Louis, provide store-to-door delivery to 18,114 towns and villages within 44 surrounding States and Canada. They serve 1,440
5687 towns in Missouri, 1,692 towns in Illinois. Also the transcontinental and interstate bus lines, embracing 15 systems, serve St. Louis.

There is a great deal of our material these days being delivered from the point of origin to the point of receipt by bus lines. They take it clear to the final customer.

—2,462—

Q. There are a number of State and national highways that go through the city? A. There are. We are on five national highways, numbers 40, 50, 61, 66 and 67, as well
5688 as some of the main State roads. 66 is the chief highway through St. Louis.

Mr. Hamilton: I ask that this group of four sheets be marked for identification as Respondents' Exhibit 52-A, 52-B, 52-C and 52-D.

The Examiner: All right, they may be so marked for identification.

(The sheets referred to were marked as "Respondents' Exhibits 52-A, 52-B, 52-C and 52-D, for identification".)

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By Mr. Hamilton:

Q. Mr. Stokes, will you explain what Respondents' Exhibit 52 for identification represents? A. Exhibit 52 consists of three maps and an explanatory sheet indicating symbols which apply to one of the maps. These three maps together represent the same territory as shown on Original Exhibit 51 but on a larger scale. The exhibit marked "52-A" represents the area at Lakeside.

Q. That is, sheet "A" of the exhibit? A. Yes. It is an 5690
expanded view of the little hatched area near the Bagnell Dam, and referred to as the Lakeside Light & Power Company district. It simply shows the lines of the little Lake-

side Company. They are in heavy black lines leading to the south, and branching around in among these hills.

Q. And the broken lines on the sheet represent county lines? A. Those are just county lines. I believe that is about all the description required. The heavy lines leading to St. Louis and to Rivermines shown on there represent the beginning of these major transmission lines which were 5691
shown on the other exhibit.

The exhibit marked "52-B" represents the Keokuk territory on the first exhibit, 51, enlarged. It shows the town of Fort Madison, indicates Nauvoo, Wever, Montrose, Keokuk, Hamilton, and so forth, on a larger scale.

The dotted line up in the upper part is again a county line. And these heavy black lines—the one going south is the main transmission line to St. Louis, which is the same line as indicated on Exhibit 51. The other line leading to the left from Keokuk and marked at its terminal, "To Mis-

souri Power & Light Company," is the line that supplies them with service at a point about 10 miles out, to which I referred in my previous testimony. I believe that sufficiently explains that exhibit.

Exhibit 52-C is a map of the St. Louis district showing the actual transmission lines, distribution circuits, sub-stations and other features of interest which could not be shown on Exhibit 51 because of its size.

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5693 Sheet "D" of Exhibit 52 is a reference sheet to go with this large map, 52-C. As an example of its use, if you will look at the last word in the right-hand column, the word is "Winstanley". The symbol, or the letter is "Wi", and if you look directly east of the center of the City of St. Louis on this map, about an inch to the right of the river, you will see the symbol "Wi", indicating some transmission lines coming into it. That is what the Union Electric calls their Winstanley sub-station in East St. Louis.

Similarly, these other letters indicate various sub-stations, and usually by number or letter.

5694 Now, the distribution circuits on this map are shown down in the open area, for example in Jefferson County, you will observe the towns of Festus and Desoto, and radiating out from those towns are light lines indicating actual distribution circuits in that territory.

—2,465—

That region is pretty rough down in there, and as you get down just above Hillsboro, there are very few habitations in there, which accounts for the open territory not covered by lines.

St. Louis County and the City of St. Louis, and East St. Louis, are so heavily covered with distribution circuits that they are just indicated here by hatched areas, like they were on the original map.

Q. Now have these maps, constituting Exhibit No. 52 for identification, and the accompanying identification chart, been prepared under your supervision? A. They have, they were prepared by men working immediately for me and under my direction, and I even assisted with the work.

Q. And the facts shown have been taken from the records 5696
of the companies constituting the Union Electric Group? A. They have.

Mr. Hamilton: I offer this exhibit in evidence as Respondents' Exhibit No. 52.

Miss Calkin: No objection.

The Examiner: Very well, the three maps marked respectively Exhibits 52-A, 52-B, and 52-C, and the succeeding sheet marked 52-D, are now received in evidence.

(Respondents' Exhibits Nos. 52-A, 52-B, 52-C, 5697
and 52-D, respectively, were received in evidence.)

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By Mr. Hamilton:

Q. Now referring to Exhibit No. 52, Mr. Stokes, and particularly to sheet C, are there set forth all distribution lines of the Union Electric Group in the area indicated? A. Well, as I explained in my last statement with regard to this map, the density of the distribution circuits in and around St. Louis is so great that they are still not shown there in detail.

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Q. But other than as indicated by the legend on the sheet C,—— A. (Interposing) They are shown in so far as possible. The feature of this map partly was to show the extent to which the distribution circuits cover these more lightly populated areas, as well as to show the main points of interest in and around the city.

The little round black dots in the City of St. Louis are distribution sub-stations, which will be described later.

The main power plants were shown on the other map and
5699 can be identified there.

Q. And all four sheets of the exhibit relate to electric facilities only? A. Electric facilities only.

The Examiner: We will recess until 2 o'clock.

(Whereupon, at 12:30 o'clock p. m., a recess was taken until 2 o'clock p. m., of the same day.)

5700

AFTERNOON SESSION

(The hearing was resumed at 2 o'clock p. m.)

The Examiner: The hearing will come to order.

Whereupon, STANLEY STOKES resumed the stand and testified further as follows:

Direct Examination by Mr. Hamilton (Continued):

5702

Q. Turning now to the physical properties of the Union Electric Group, Mr. Stokes, will you give us the general classifications of electric service property of the Union Electric Group? A. The investment in Union Electric Group of properties is roughly divided as follows: three-fourths of the property is in transmission lines, transmission substations, and power plant; and one-fourth in the distribution system. That is a little different than the ordinary division in a utility company. It is frequently spoken of that a utility company has one-third of its property in plant, one-third in sub-transmission, and transmission lines, and one-third in distribution. But in our particular case, due to the large percentage of hydro-electric investments, the effect of changing that ratio is shown, so that is easily explained. 5703

Q. Now, will you state the total name-plate rating of your generating capacity? A. The total name-plate rating of our

combined steam and hydro-electric plant is 722,500 kw. The nature of the property is very complex, and, as constituted, it represents properties which have been acquired by purchase, and structures which have been built, and equip-

ment which has been installed through the life of the present and predecessor company.

The present property is an accumulation of years of effort directed toward the acquisition, coordination and merging of scattered piecemeal power supply facilities, into the present unified power system, which makes it possible to supply adequate power throughout the entire area.

Before going into the detail of the steam generating plant, I would like to indicate the general nature of the facilities.

5705 In addition to the plants we have had to acquire pieces of land which were strategically located for both hydro-electric development and for steam plant development. Only a certain type of facilities like that are practical where you must have either water supply for condensing purposes, or you must have a suitable place to build a dam.

In addition to the plants you have to have all of the lines, transmission lines, sub-stations, warehouses, buildings, employees, and so on, warehouses for storage of materials, telephone facilities, and a great many other types of equipment that are utilized in such work. And in describing these

5706 —2,469—

I would like to divide them into several headings, of which power plants themselves would be one major subdivision. I think that is a convenient way, as convenient as any.

With regard to the actual name-plate ratings of the units to which reference was made, it is divided into 485,500 kilowatts of steam units, and 237,000 kilowatts of hydro units. Due to steam and water limitations, we de-rate those figures to what we call our dependable rating, and take 430,000 kilowatts as our steam plant rating, and 200,000 kilowatts,

which will later require some explanation, as the rating of the hydro plants, making a total of 630,000 kilowatts.

Now that, you will observe, is quite a reduction from the 722,500 figure given as name-plate rating. I believe that I might as well explain that 200,000 kilowatt hydro rating at this point.

The actual capacity of the hydro plants is divided into two plants, the Osage hydro-electric development, or Bagnell Dam, as it is sometimes called, and the Mississippi River Power Company plant at Keokuk, which is located on the Mississippi River. 5708

The two types of development are entirely different. The Keokuk plant has very little storage, and you have to take the river flow as it comes. You can fluctuate the level of the river in the forebay above the dam by maybe a foot or so, but the dam is relatively low in head, roughly 30 feet, and

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the requirements of river navigation are such on the Mississippi that you have to let the water through more or less continuously. 5709

Furthermore, at times of high flood, you couldn't hold it anyway, you would have to take it through the wheels or let it go over the dam. So the Keokuk plant is what we would call primarily a stream-flow plant, and naturally its output varies with the river.

The maximum output, when water conditions are favorable, is 135,000 kilowatts. That is periodically reduced to possibly 70,000 kilowatts for a few days in the wintertime, due to freeze-up, what they call the early freeze-up. That is in the early stages of the winter, up the river, as the ice

is forming, it cuts down the velocity of the water, and you have a temporary period there which rarely lasts over ten days, in which you couldn't count on an output of more than 70,000 kilowatts, although your kilowatt hours may be steady. In other words, we are not dealing here with a minimum quantity of water, but rather with a retarded type of flow, due to ice conditions.

In the summertime, in a dry year, the minimum condition approaches the same figure, due to low water. Now at
5711 the Osage plant, Bagnell Dam, we have a high-head plant there of about 100-foot effective head, and a storage reservoir containing a huge amount of water. The fact of the matter is that it is in the same general classification as Boulder

—2,471—

Dam, with regard to storage. It is not quite as large, but very close.

The shore line of the lake, for example, is about 1,300 miles, that is to say, considerably farther than from St. Louis to New York City, if you followed the shore line of the lake all around. So it is really a big storage reservoir.

5712 Now that one is to a large extent independent of stream flow, and is available at any time you want it, but if you use it, it will take time to recover it again. So that if we have normal water power conditions in the spring, we get roughly 130,000 kilowatts, with some degree of regularity, from the Osage project, and with 135,000 from Keokuk, or the Mississippi River project, we might have 265,000 kilawatts, which would be available almost constantly for three months

But you might say—why do we rate them at 200,000? Well, that rating is the firm capacity which we can guarantee

available over the entire winter peak season, just as though we had a bunch of steam plants sitting there to do the same thing. And it is what we refer to among ourselves as the cut-off capacity for winter peak.

That is to say, it is the amount of kilowatts that that hydro plant, utilizing its storage, can actually cut off from the top of our system, and as you can readily appreciate, the amount of peak that can be cut off in that manner is related

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to kilowatt hours, because the reservoir holds just a certain 5714
amount of storage, and if we want to run that through very rapidly, the actual peak capacity of our wheels is something like 160,000 kilowatts, but if we want to run that through at a rate which will supply all of the kilowatt hours over the winter peak period, which occur in the top 200,000 kilowatts of our load, then we have accomplished what we set out to do, and have cut the winter peak by 200,000 kilowatts.

I go into this lengthy explanation because the figures appear to be conflicting, and they really are not.

During the spring season we take advantage of the excess water available for overhauling the big turbines, steam tur- 5715
bines. We take one of them down, like a 75,000 kilowatt unit, and overhaul it during the period of plentiful water supply. Then, during the summer, we run those turbines, take a dry year, for example, at their capacity and keep the reservoir as a reserve.

So at one time of the year the reservoir is operating as quick-starting reserve, it being started in less than 3 minutes,—sometimes we keep one of the wheels running all the time, and the gates throttled down and just letting enough water in there to keep the wheel up to speed, and if the fre-

quency of the system drops just a fraction of a cycle, there is a device that trips the wheel and it comes right back up to speed in the matter of a couple of minutes or less; in other words, sufficiently quick so that we would be able to hold

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the load against the loss of a big steam unit.

(Discussion off the record.)

5717 *By Mr. Hamilton:*

Q. Now you have named two of the generating units, two of the generating stations, in your system. Will you name the others? A. I have named the two hydro-electric plants. Now the steam plants are, first, the Ashley Street Station.

Q. You might locate these on the map. A. The Ashley Street Station is located in the City of St. Louis, as shown on Exhibit 51 by name, and it is marked. It is a Union Electric Company of Missouri plant.

Q. It is shown on the exhibit as "A-S", is it not? A. That is correct.

5718 Q. I think it is apparent from the exhibit, and you are referring to Exhibit No. 51, are you not? A. Yes. All the "S's" refer to steam, and the "H's" refer to hydro.

Now then, that plant is the first large steam plant that supplied the City of St. Louis. It is located on the Mississippi at the foot of Ashley Street in the City of St. Louis. At one time it supplied the entire load of the city. It has been repeatedly added to from time to time, and is very essential even to our present operations today.

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The chief necessity for it today lies not only in the generating equipment itself, which is both 25 and 60 cycle, but it serves as a steam heating plant, and it has a large amount of sub-station facilities, either in or adjacent to the building, which are very fundamental to the operation of the city's system. I will describe that in a little more detail later.

The plant itself acts further as a reserve for our general system operations. Its economy today is not sufficient to warrant its long-hour operation, but its reliability is very high, and in combination with the hydro system it serves a most useful purpose. 5720

The present plant contains a generating capacity of 5,660 kilowatts in 25 cycle equipment; and 42,000 kilowatts in 60 cycle equipment, name-plate ratings.

The steam heating requirements which, in January 1940, were 625,000 pounds of steam per hour, maximum, during the winter peak, limit the electrical output of this plant at such time to 65,000 kilowatts, after the two boilers which are now under construction go into operation this winter. They are just ready to be tested out now. The capacity in the plant can be operated at either frequency, and to that extent it has the characteristic of a large frequency change. I should explain at this point that the Keokuk system is 25 cycle generation. At the time Keokuk was constructed, it was not possible to transmit power that distance, approxi- 5721

mately 146 miles, at 60 cycles, and even today, with our present knowledge we would have to reduce our amount received by a very considerable amount if we had to take it at 60

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cycles instead of 25 cycles, 25 cycles being much preferable for transmission.

Also at that time there were no 60 cycle rotaries available, and the majority of the load to be supplied from Keokuk was street railway load.

At the present time over 60 per cent. of all the kilowatt hours produced by the Keokuk plant at 25 cycles is actually consumed by the ultimate consumer at that frequency, either in railway load or heavy industrial load. Very little is used
5723 for lighting.

The part of that which is still being used for lighting is being replaced at the present time with 60 cycles, about which more will be said later.

The steam heating load being materially reduced in the summertime, down to about 100,000 pounds per hour, instead of 600,000 pounds, gives us available 500,000 pounds of steam per hour to be used for electric generation if we want to.

Q. You are now talking about the Ashley Street plant? A. Yes. The only digression on the Keokuk plant was made for the purpose of explaining this 25 cycle and 60 cycle gener-
5724 ation at Ashley Street.

Ashley Street having available, then, in the summertime,

500,000 pounds of additional steam, which can be used either through 60 or 25 cycle machinery, provides a very attractive reserve to the Osage hydro-electric plant, whose minimum output will occur in the summertime in a dry year. Those two fit in very nicely.

Ashley Street 25 cycle generation itself was put in, was included in the contract which was entered into about 1913 between the Mississippi River Power Company and the then

Union Electric Light & Power Company, for the service itself, a 99-year contract. And the Ashley Street plant was recognized as being a necessary reserve for the Keokuk. Otherwise, a reserve steam plant would have had to have been built, and that is still the case.

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The annual load factor on the 25-cycle generation at Ashley Street is relatively low, but it is used in conjunction with the Keokuk generation to supply the load.

To continue with the thought that I was about to bring 5726
out a few minutes ago, namely that over 60 per cent. of the kilowatt hours were ultimately used at 25 cycles, that explains why, to a large measure, we have no particular interest in trying to change the frequency. The situation is static. The river is not producing any more power than it did in the beginning, we are not selling any more firm 25-cycle power, we are keeping the status quo and the customers, themselves, could not afford, nor would they care to, to spend any more money to change their equipment. Nobody would gain anything because the 25-cycle equipment, used for industrial power work and for street car work, is equal to or better than 5727
60 cycles. There is absolutely no advantage if you already own the equipment. If you had to buy it, 25-cycle equipment, in general, costs more than 60-cycle equipment.

Therefore, we have a growing 60-cycle load and a static 25-cycle load, and if anyone on the 25-cycle system wants to obtain additional excess or secondary power, we are delighted to sell it to him, but it isn't firm. On the other hand, if he wants firm power, we will generate that at St. Louis by steam, put it through frequency changers, and deliver it to him.

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Now that in itself is a simple operation for us because we merely reduce the amount of transmission that we otherwise supply; that is, we really generate our own load and do not send as much up under reserve conditions.

The result is that the various studies that have been made from time to time with regard to the possibilities and advantages of converting Keokuk to 60 cycles have always been proved the opposite. The best thing to do is to keep it as is and take all the growth at 60 cycles.

5729 Now, to again get back strictly to Ashley Street, you cannot discuss Ashley Street intelligently without relating it to this 25-cycle system. I am talking about the older part of the plant.

The use of this 25-cycle energy in St. Louis, aside from the street railway company, is in the Edison down-town district where it is used as direct circuit, and in the supply for that Edison system we get the source from both the 25 and the 60 cycle connections, and thereby obtain a degree of reliability that we could not obtain if all the supply were obtained from either system, the two systems not being elec-

5730 trically connected in any other way.

Now in the 60-cycle equipment at Ashley Street, we have it connected by means of cables and transformers to our larger plant which I shall discuss. But it is essential that Ashley Street, although not by any means the largest plant on our system—and it is the oldest—it is essential that a

clear understanding of its position in St. Louis be had.

I may have to again refer to it later in the discussion on transmission because it is a focus of a number of plants

and is centrally located and serves so many different purposes; that is, although it is old I believe it probably is one of the most effective plants that we have because it, first, to summarize, supplies the steam heating requirements; it supplies the reserve for the Keokuk hydro plant; it acts as reserve for Cahokia plant, which will be described shortly, and supplies the service to the downtown Edison district,—half of it, the other half coming from the 60-cycle plants.

Now I shall describe the Cahokia steam plant next. That is located on this exhibit on the Illinois side of the river at 5732 St. Louis, and is named on the print——

Q. (Interposing) That is indicated by "B-S", is it ~~not,~~—indicating the Union Electric Company of Illinois? A. Yes. This plant is our largest plant and one of the largest in the United States.

The total installed capacity is 300,000 kilowatts in six turbo-generator units. There are 24 boilers outputting at 325 pounds pressure, and burning pulverized fuel. The plant, as recently constructed, had one of the first units as a 35,000-kilowatt unit. We found it possible to extend the boiler capacity and replace that unit with a 75,000-kw. unit 5733 —2,480→ in the same space, which materially increased the capacity of the plant, with moderate costs.

The unit which was removed was transferred to a plant which we call Venice No. 1, which will be described.

The Cahokia plant, which is located right on the river bank, on the east side of the river, transmits its power into St. Louis largely by means of underground 33-KV and 13,000-volt cables. It is also connected to the transmission system in the Illinois district by a number of 66,000-volt circuits and

two 50,000-kilowatt banks of transformers. More will be said about that under "sub-transmission system".

The plant is also connected to the Ashley Street station by a number of underground 33-KV submarine cables, they going submarine under the river and then underground the rest of the way to the Ashley Street station.

To summarize the figures, there are 28 of the 33,000-volt submarine cables laid in the river, and six 13,800-volt cables. I should have mentioned that they are also 33,000 volts, but
5735 they are operated temporarily at 13,800.

The plant is connected to the Illinois area by three 13,800-volt and three 33,000-volt and two 66,000-volt lines.

It is connected to the Page Avenue sub-station and to the Venice station, as is shown rather sketchily on this exhibit but the lines indicated there at Cahokia go north a short distance to the Venice plant, which is named and marked "B-8";

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thence, they go to the left to the sub-station marked "Page Avenue", shown with a "A" on it.

Now that transmission is from Cahokia to Venice by
5736 overhead double-circuit 66,000-volt lines, each circuit capable of handling 50,000 kilowatts.

From the Venice plant on to Page Avenue, by underground 66,000-volt submarine cables where they cross under the river and thence by underground cables to the Page Avenue sub-station.

The use of the 66,000-volt submarine cable was somewhat of a problem. The cable itself had been in use possibly five or six years, or a little longer, both at Cleveland and Chicago, but as far as I know this was the first application

of 66,000-volt submarine cables. Such cables are not essentially different from land cables, but have to be treated quite differently in the process of laying. They are reinforced with armor, over and above the lead sheeting, and that is protected by jute, and there are various coatings to protect them from erosion by the sands in the river, and from fish, and from anchors dragging, and various things that may happen.

But the primary difficulty is to lay the cable itself across 5738
the river with a boat which is in constant motion from the currents and getting it laid down so that it is not cracked, so that the lead is not cracked, and so that it lays properly to provide for shifting of the sands on the bottom of the river, so that if the sands were to be washed out underneath it, it wouldn't be left unsuspended through a long

unsupported span.

There are a number of things to be taken into account about which knowledge was not altogether available at the time. We have had more submarine cable experience than 5739
anyone else in the country, because altogether there are 38 or 39 of these cables now crossing the river from Cahokia at 33,000 volts, and we have had to pioneer that work at considerable difficulty, involving the loss of some of those cables which would not occur today with the knowledge we now have.

That is one of the things you have to learn and have to do with the matter of treatment of the bottom of the river, to keep it from shifting. But that was successfully overcome and those cables are working very satisfactorily

from Cahokia, and also are carrying the load successfully over the 66-KV route.

The determination of those 66-KV underground cables from submarine to land, offered a little problem which was successfully solved, and they are working all right.

Q. How did you solve the problem of shifting sands? A. We found it necessary to lay what is known as a mattress, the same type of protection that is used by river people up on the bank. We had to go down in the river and
5741 make up a woven mattress, either out of willow rushes or 1 x 3 oak planking, and you make up a mat like that and sink it by means of loading heavy rocks all over it, and, then, having got that weighted down in the river and loaded

with rocks, you pin it there by driving piles through it, carrying them down to the point at which any navigation would not be bothered. That makes a firm footing; and as you approach the shore, the trouble is always that at the edge of the bank, down deep in the water it shifts. The
5742 middle of the channel doesn't shift so much. All we do in the middle of the channel is to see to it that the cable is laid with plenty of slack upstream so that any washing-out will permit it to settle in place without damage, and by making a firm footing, as you approach the bank, the last two or three hundred feet, we have eliminated the difficulty.

Q. How long are these cables under water? A. They are about 2,500 feet in general, and that was the source of our greatest single difficulty.

To begin with, we couldn't get a cable over about 1,300 feet in one length, and we attempted to join it in the river.

Making a 33,000-volt cable joint is somewhat of an undertaking even out on land, in a room where you can control the moisture content and where you can get this thing properly taped up, with hot oil kept pouring over it all the time, and then making a good lead seal. All of which takes from 24 to 36 hours, even under the most favorable conditions, on land.

Well, the only way we could do that was to do it on a boat, and the boat kept rocking all the time due to the current and the waves, and you just can't keep bending a lead cable 5744
continuously for 36 hours that way, and where the cable

was suspended over the sides of the boat it showed, some years ago, that the lead had been damaged, and nobody knew any way to avoid that.

So we attempted to obtain a cable in one length, and after considerable negotiation with the then Standard Underground Cable Company—they are now General Cable—we arranged to have a special reel built which could be handled by our large cranes, made out of steel, and that was shipped to the cable company and the cable company doubled the 5745
length of their building in consideration of our giving them an agreed-upon set of orders for a certain number of years for these cables, and they built us the cable in 2,500-foot lengths, and so we laid it in one piece, starting right across the river and finishing the job before we stopped.

The Cahokia plant is connected to the Ashley plant by a number, about five, of 33,000-volt tie cables. Those are heavier cables than the ordinary feeder cables, heavier in capacity and size of copper.

5746 *Stanley Stokes—By Respondents—Direct*

So that we now have the Cahokia plant and the Ashley Street plant properly connected, and we have briefly mentioned the transmission connections north to the Venice plant, which I shall now describe.

Before leaving the Cahokia plant I should say that this description which I gave was very meager from the standpoint of a plant of that character. Roughly, there is around

$32,000,000 invested in the plant, not including the sub-sta-
5747 tions which are part of it, which would represent another five or six million. I mention that to indicate the size of the plant.

Incidentally, the plant is well supplied with land in a district in which such land is next to unobtainable; that is, there is only a limited amount of river footage available, and it is practically all being used for essential industries, some of which could not be acquired today even by condemnation because it is in the public interest for so many purposes, such as railroad yards and other facilities, that if a more or less farsighted judgment had not been used in acquiring this
5748 property of some 56 acres at the time we started the plant, we probably would be somewhat handicapped in attempting to obtain it today.

The Venice plant is located in the area referred to as Venice, Illinois, a little town shown on the map marked, as I said a minute ago, "B-S", being owned by the Union Electric Company of Illinois and located on the Illinois side of the river.

This plant, as now constituted, is just a moderate size plant with a total capacity of 62,500 kilowatts, and limited by a boiler capacity to 40,000 kilowatts, present output.

We can bring that up to 62,000 any time that it justifies the expenditure, but temporarily we feel that the immediate requirement is better served by the construction of a new plant adjacent to the present one.

—2,486—

The basis of reasoning there is this: A 20,000-kilowatt gain in capacity is not sufficient to serve us even for part of a year at the extremely rapid rate at which the load is now growing under the National Defense requirements, and yet 5750
there have been times in the past, and there will be times in the future, when this 20,000 kilowatts—(I say there will be times in the future, there may)—when this 20,000 kilowatts might suffice for a year's growth.

At such times, that type of development will be economical and is contemplated, but at the present time we don't see any necessary or desirability of attempting to increase that boiler capacity merely because we have an extra 20,000-kilowatt turbine in the building.

The plant is connected, a distance of 4.8 miles, to Cahokia, as stated, by these two 66-000-volt circuits, and the 5751
cable circuits which I mentioned to Page Avenue are 7.94 miles long.

Some load in St. Louis is supplied by the 33,000-volt submarine, sub-transmission cables, that is, they are cables out of the Venice plant to the Missouri side, just as they are at Cahokia except there aren't so many of them.

The Illinois loads are supplied by four 66,000-volt overhead steel-tower transmission lines, two of which go north and supply the Alton district, and two go east and supply

the Illinois-Iowa Power Company, which was mentioned in the testimony this morning.

—2,487—

The Alton district is growing very rapidly and service in that district is rendered to various industries such as the Owens-Illinois Glass Company, an electric furnace project, and the Shell Oil Company refinery. This latter refinery has been growing at a huge rate for the past year, increasing their load by, roughly, almost 1,000 kilowatts a month. A
5753 year and a half ago they had a load of about 5,000 kilowatts, and they anticipate 14,000 by the end of next year. The load factor of that load is the highest that I have ever seen any record of, running 90 to 91 per cent. on the monthly basis, and apparently that will hold on an annual basis at the way they are going.

That is all you can do if you run the machine just as steady as you can all the hours of the year, because the little variations within the cycle account for the difference, and service requirements there are extremely rigid. We have a very enviable record with both the oil company and the
5754 glass company up there, both of whom have service requirements that are far above normal.

I think that it is well to mention at this point that if our service were to be totally cut off for any length of time from the glass company, and let the big furnaces with their molten glass harden up, they would have to be chiseled out at a huge cost; and the Shell Company has a number of operations in the refinery there which would represent extensive loss of

—2,488—

property, and even a hazard to life, if the service were kept

off for a very considerable length of time. They have actually some provision of their own for relief, but inasmuch as those things have never actually been tried out, there is always some question as to just how well they would work.

We feel very strongly the necessity for service reliability in the district. So far, we have had service up there for a number of years, and with great satisfaction. We can refer to both of those customers whenever we have any questions to discuss about service reliability. We have new equipment, good lines, everything the best there is, and a most elaborate 5756
relay protection system, everything is duplicated.

As a matter of fact, the St. Louis district would rank very high in the entire country if it were to be rated on the percentage of our lines that are duplicated to the customer.

We have a large number of radial circuits to which these large customers are connected on more than one, that is they have at least duplicate service.

I mentioned the proposed new plant at the Venice site immediately adjacent to the present building. We have a very valuable site of land there and are in the process of constructing a new plant whose ultimate rating is intended to 5757
be 400,000 kilowatts, and the initial step consists of two 40,000-kilowatt high-speed units, 850 pounds pressure, 900 degrees temperature.

That plant is expected to be in operation before the winter

of 1941. We are crowding it with all speed, and hope to do some testing in there not later than the first of September, next year.

There are a number of difficulties in a river plant that do not occur in a lake plant or in most of the eastern sea-

board plants where they have good rock foundations. We have to go down from 85 to 100 feet to get to rock, or depend on a floating type of foundation.

The Cahokia plant was built on what may be called a mattress, which is buried way down, and depends on the mattress and lots of piling, and then a hig heavy sub-base, and then a concrete box; in other words, the construction corresponds to a battleship floating in sand, rather than in water, and has to be made self-contained, and has to be cal-
5759 culated to be sure that it won't float under flood conditions; it had to be calculated to be sure that it wouldn't float under the 1884 high water which went some 35 feet above our normal low water.

I actually made a calculation and found that if all the machinery were to be removed from the plant it would be theoretically possible for it to float, if you had the highest water that had ever been recorded.

Actually, there is no danger of it, but it was a calculation that had to be made. The difficulty of those foundations was considerable, and the expense was fairly high, and when
5760 we got to the Venice site we had 15 feet less.

—2,490—

Well, that doesn't sound like very much, but when you are driving 85-foot piles, another 15 feet might become an impossibility. We made a lot of test borings, and decided we would drive 12-inch steel piling with a special head on it, filled with concrete, and the result was successful, and we are driving those with great success and are delighted with having decided to do it. Two-thirds of them are already driven at the new plant, and there are only about two or

three firms in the United States that can do that kind of work, and it is a very great relief to us to know that we can go the 85 feet there and get on solid rock without having to work such elaborate precautions.

That plant should be as efficient as we can possibly justify, with our coal costs, and it is designed with every conceivable facility for a reliable operating plant.

We have reasonable expectations of getting the same type of economy that has been obtained in three or four other recent plants with machinery of that character. We gave 5762
careful consideration to the use of 1,250 pounds, 925 degree plant, but such a plant is so much more expensive to build than this type, is only slightly more efficient, and with our coal costs which are low, relatively, with relation to the eastern seaboard, we didn't feel that we could quite justify the expenditure. —2,491—

We also have to take into account the fact that a good part of the energy in our system is derived from water power, and that all of those things, taken into account, would cause us to select a plant which was most suited for the particular district, rather than the most highly 5763
efficient plant which could be theoretically built, in attempting to get the minimum cost of power, including fixed charges.

The next plant which I should like to describe is the Rivermines plant. It is located on this exhibit in the southern territory in St. Francois County, and is marked—it is a Union Electric Company of Missouri property, and is marked "A-S", the "S" standing for "steam".

It is a plant which was originally acquired from the St. Joseph Lead Company. At the time we built the Osage

project, or Bagnell Dam, we also acquired the load of the St. Joseph Lead Company in St. Francois County, the load brought about by their lead mining, and we acquired the plant and obtained their load. The plant was in good condition, with two 12,500 kw. units, and very quick to start, reliable, and we have retained the plant and have actually run it this year several weeks for peak reserve, and keep it in operating condition at all times.

It isn't a continuous operating plant, it is what we call
5765 a cold stand-by in most years. It would only be run in the year before bringing in a new plant. Do I make my point

clear when I say that these things are operated in the year just before bringing in a new plant?

That is to say, what we mean is that we utilize all of our reserve facilities in so far as we can so that we can schedule the bringing in of a new plant with perfect safety, but without getting it in before it is needed, because if we do, we are wasting fixed charges.

And in that way, we bring in the Osage project with
5766 its reserve cut-off feature, and have these other plants available so that if we were to lose one of our largest units, we could go right ahead.

And as the load approaches the point at which the loss of the largest unit would have any bearing on carrying the loan, then these plants are started up and run.

At this plant is a major switching station for the two 138 kv. circuits which go from the Bagnell Dam, or Osage, to Rivermines, that is, the southern route shown on Exhibit 51.

At the Rivermines plant we not only have this major switching station, but two 25,000 k. v. a. synchronous condensers for controlling the operation of the transmission lines; and a very extensive distributing substation having an installed transformer capacity of 75,000 kilowatts, which serves the St. Joseph Lead Company, and which also serves as distributing sub-station for our own load.

You see we have, in addition to the Lead Company load,

we also serve the area in all those small towns around there, 5768
so that this sub-station supplies all of those requirements.

We have five 33 kv. outgoing lines from that point for our own use, as well as a large number of cables supplying the Lead Company mines directly.

The service requirements there are again very rigid. Those mines are very rapidly operating mines, with high-speed hoisting, underground electric haulage of a good many miles, and they use a type of electric undercutting and digging machine which they themselves developed. It is a peculiar sort of a shovel. I have seen it work. At the end of one of these mine tunnels, it is difficult to operate an 5769
ordinary type of machine, because your tracks have stopped, and you are blasting out ahead of your tracks, and you have got no supply or anything in the last 15 or 20 feet, that is, you are working up against a blind wall in which there will be a bunch of jagged rock as a result of a blast, and you have got to get out ahead of everything you are working with, or else use a hand shovel, which is the ordinary method.

Well, they developed a sort of an unloader, built it themselves, that corresponds to a small-sized steam shovel,

working with very limited room, which carries over the top and sticks out and picks up the rock, bringing it back over the top, between the top of the tunnel and the car, and drops it in the car behind them, and they build the tracks up as fast as it gets the rock excavated.

—2,494—

In the beginning they had lots of minor difficulties with the thing, one of which was that the men weren't particularly keen about it, that is, the miners themselves. They
5771 were afraid it might work too well; as a matter of fact, it did work well, and they are using a number of them right along, but they have also expanded their mining operations, and the miners' fears were unfounded. There are more miners working there today than in those days, and the machines are also working.

The pumping load down there is something of consequence. There are several thousand kilowatts used in de-watering those mines, and if those pumps were to stop for 18 hours, I don't know just how many hundreds of thousands of dollars it might cost to de-water the mines,
5772 but I should imagine that it would probaly cost somewhere in the order of a million dollars. There is very little danger of that, because there are so many sources of supply, and we have the local steam plant. And if a tornado were to take that plant out, we could get the lines rebuilt in less time than the water would become serious.

So neither they, nor ourselves, are concerned about it, but we have to have facilities, which we have.

Q. Now you have named the steam plants, and you have referred very briefly to the two hydro-electric plants. Could

—2,495—

you add, however, to the description of the Keokuk hydro-electric plant? A. The Keokuk hydro-electric plant, which was constructed and ready for operation the latter part of 1912, going into service in 1913, is a beautiful hydro-electric plant. I like to use that expression "beautiful", because I have seen a great many of them, and today it is one of the nicest looking and best constructed plants with which I am acquainted.

When you step into the main turbine room and look about a quarter of a mile down the room, over 15 of these big units, 5774 it is quite an imposing sight.

Today you could build the same plant with larger units, and less of them, and it wouldn't be any better, it wouldn't be as good, because you have a greater chance of losing units then than we do up there. We have never lost any units accidentally in the life of the plant, and if we did, they are small and they wouldn't have any particular significance, and if such a plant were to be built today, with larger units, and fewer of them, the actual cost would be much greater than the cost was at the time, as far as the construction itself.

The reliability of that plant has been most remarkable. 5775 There have had to be some repairs on the dam, due to ice damage, but nothing of consequence, and the only equipment which has shown any particular signs of depreciation at all, has been the transformers, which have received very heavy, hard use, and a little at a time they are being replaced. They

—2,496—

were put in in 1912, and this is 1940.

Now that can be readily explained. In the St. Louis district anything put in in 1913 would have been obsolete today because of the changing requirements, the load increase—

everything is changing. Short circuits are increasing, oil switches have to be replaced, and many things have to be done which do not have to do with the depreciation, but rather obsolescence, whereas, in a hydro plant, you never can get any more out of it in the future than you did in the beginning, because the river doesn't change.

Consequently, those requirements remain practically fixed, and it becomes a case of wear-out only, and with careful maintenance, freedom from smoke and dirt that is asso-
5777 ciated with a plant of that kind, I don't know how long that equipment may last. But I have had some inspections made of the insulation and found it to be remarkably good. It is quite a tribute to the engineering that was done at that time.

Now the plant itself was designed for a head of 32 feet; a total installed capacity of 108,000 kilowatts, name-plate rating. The machinery has been operated all these years on a temperature schedule basis, in which the load given the machinery is determined by the surrounding temperature and certain other conditions, and we have had remarkable success with the generators, and when the water is available we
5778 rarely ever run them under 135,000, with a name-plate rating

of 108,000.

Q. Why do temperature conditions enter into a determination of the loading? A. Answering your question, the limiting capacity of any electrical machine is determined by the limiting temperature at which you can operate the insulation surrounding the wires in the generator or transformer. That sets the top temperature. Now the temperature rise in the machine has to be measured above the surrounding air,

or if it is a water-cooled machine, above the surrounding water temperature. The result is that in very cold weather a transformer setting outdoors could safely carry more load than it could in a very hot location. The result is that we prepared, as a result of experience and data, accumulated over years in St. Louis, and as a result of examining equipment which has operated for many years, and which has been taken out of service due to failures or for other reasons,—examined the condition of the insulation, and knowing the condition under which that machinery has been operated, 5780 we concluded that certain operations will not damage the insulation materially. We know, whenever we overload a machine, that we are going to get somewhat less life out of it than if we keep it below its rated load, but it is very frequently the case that you can carry more than the rated load without damaging the machine appreciably and thereby get

the most out of it over its life.

(Discussion off the record.)

The Witness: While we were discussing the capac- 5781 ity of the Keokuk machines being operated at a normal load of 135,000 kilowatts with a name-plate rating of 108,000, I should like to mention the condition that existed at the other end of the Keokuk transmission line, at the St. Louis end.

There we have two banks of transformers rated at 56,000 k. v. a. maximum rating. They have blowers on them, and the blowers can be operated to obtain maximum rating. The operating department reported

5782 *Colloquy*

that we were from 2 to 5 thousand kilowatts short on capacity in those transformer banks, and we were losing a certain number of k. w. h. from the hydro plant by reason thereof.

The engineering department, over a period of several months, made a careful study of the design and characteristics of those transformers, and produced a table giving the operators a statement of what load they could put on those transformers at certain out-
5783 side temperatures, for so many hours. In addition to that, they made an equivalent table showing the number of k. w. h. that they could take through them in any 24-hour period, as they have quite a heat capacity and it takes them quite a while to warm up, starting from cold.

The result was that they put that schedule into operation and hadn't been running more than ten days when the Keokuk operators called up and said

that they were unable to deliver the capacity because
5784 of their own transformers. In other words, a scientific method of operating these transformers provided all the required capacity, and if you have today a couple of thousand kilowatts, and multiply it by the number of hours in a year, it runs into a good deal of money.

I want to bring that point out to illustrate the effective use of equipment, and to state that the customer has to take his own responsibility in making such decisions, and that very meager data is in general available from which to draw conclusions.

Now the Keokuk plant is connected, as I said without much detail before, to St. Louis by 110,000 volt, 25 cycle transmission lines, stated here to be 143 miles long. I have always regarded that as 146 miles long, but I think either figure is acceptable. It is connected at the Page Avenue sub-station in St. Louis, which I have previously located on this map.

The line is tapped to supply sub-stations at Hull, Illinois; Meppen, Illinois, which furnish energy to 5786
the important loads at Quincy, Illinois; Ilasco, Missouri; and to the Alton and East St. Louis industrial districts.

In addition to the transmission circuits to St. Louis, the Keokuk plant supplies the City of Keokuk, Iowa, and surrounding territory, including a number of large industrial customers. These are supplied

through twelve 11,000 volt circuits—those are the same industrial customers to which we made reference this morning; two 33,000 volt circuits extend 5787
north to Fort Madison, which is indicated on this exhibit, to Burlington, Iowa, and supply service to that area, and to the Iowa Southern Utilities Company at Burlington, which was mentioned.

These circuits are carried on two separate single-circuit wood pole lines, one on each side of the river, to Fort Madison, a distance of about 20 miles; and from Fort Madison to Burlington, a distance of 18½ miles, they are carried on a double-circuit steel tower line which is designed for 66,000 volt operation.

5788 *Colloquy*

The plan is to, when required in the future, rebuild the present circuits from Keokuk to Fort Madison for 66,000 volts, and then we will have continuous, one continuous 66,000 volt line all the way from Keokuk to Burlington.

At Fort Madison, the service is in the process of being changed from 25 to 60 cycles, that is, for the town itself, and two frequency changers are being installed, and the entire load in the area, with the
5789 exception of a few industrial loads, is being cut over to 60 cycle service. The cost of this, and certain other comments, will be brought up again later.

The single-circuit 33,000 volt wood pole line extends out and supplies service to the Missouri Power & Light Company. That was mentioned this morning,

but I want to get them all in here at this time. That was this line shown on Exhibit 52-B, as coming out from Keokuk, and it has a statement here, "To
5790 Missouri Power & Light Company".

The Illinois-Iowa Power Company—all of these companies having been mentioned this morning, but no further information was given as to how they acquired their power—purchases energy at Hamilton, Illinois, which is across the river. The dam extends across the river, and the cable and circuits go across in the dam, to Hamilton. And the energy is converted over there to 60 cycles and transmitted over a 66,000 volt double-circuit line, eastward through Illinois, by way of Galesburg, toward Kewanee.

The Illinois-Iowa Power Company owns the frequency changers.

The Central Illinois Public Service Company was also mentioned earlier, and it acquires its supply at Keokuk, Hull, Quincy and Meppen, and converts it to 60 cycles, and supplies the western portion of this Illinois system. They also have frequency changers at those places, which are owned by themselves.

I would like to correct that statement; those are owned by the Illinois Public Service Company, the 5792
one to whom they sell some power. That company has not been previously mentioned. It isn't one to whom we sell direct.

I believe that about covers the Keokuk plant.

Q. Will you add to your previous description of the Osage

—2,502—

plant? A. The Osage plant is located on the Osage River, near Bagnell, Missouri, 46 miles south of Jefferson City. The dam is a gravity type concrete structure, 2,543 feet long, 5793
148 feet high from bed rock to the highway deck. The reservoir covers an area of 95 square miles, is 129 miles long, with a shore line of 1,300 miles. The designed head of the plant is 90 feet. We usually run over that head, but that is the head for which it was designed, the one for which the wheel itself is designed. It operates better, of course, at a higher head, and we lose power at a lower head.

Each of the six units is rated at 21,500 kw., to give a total plant rating of 129,000 kilowatts. Now that brings out the limitations of the name-plate rating. Those wheels can be

5794 *Stanley Stokes—By Respondents—Direct*

operated at 26,500 kilowatts at a little higher temperature, and as a matter of fact they are generously designed, and we can run them at 30,000 continuously, without ever reaching the designed temperature.

So there is no limitation whatever in the wheels, and the rating of 21,500 doesn't have any bearing on what they can do.

Our normal output there is usually taken as about 130,000 kilowatts. Energy is transmitted to St. Louis over the two
5795 routes previously described. Those transmission lines themselves will be more fully described at a later discussion of

—2,503—

the transmission system.

Now I have covered the description of our major power plants, but we have one sub-station which is of so much importance in our system that I would like to describe it along with the power plants, and if I may, I would now like to describe the Page Avenue sub-station. It has already been located on the map.

The Examiner: We will take a short recess.

5796

(Whereupon, a short recess was taken, after which the hearing resumed.)

By Mr. Hamilton:

Q. Will you resume with your description? A. This sub-station, which is located just outside the western city limits of the City of St. Louis, in St. Louis County, is the terminus for two 138,000 volt transmission lines from the Osage hydro plant, also the terminus for the two 110,000 volt circuits

from the Keokuk plant; is also connected to the Venice plant by two 50,000 kilowatt, 66,000 volt cables; and by a continuation of the same cable route, on overhead circuits, from Venice to Cahokia, as described previously, it is also connected to the Cahokia plant.

The result is that there are four power plants which can feed their output into the Page Avenue station. We distribute, for residential and commercial purposes, about 27,000 to 30,000 kilowatts of load at that point. We also distribute, at 25 cycles, several thousand kilowatts of in- 5798

—2,504—

dustrial load, which goes to some cement companies, and to the railway company.

Thus, the station is a most important feature of our system, and we have to be very careful in the design of all of the equipment there to be sure that we avoid a fire risk or failure of any kind, and everything is duplicated.

The yard around the plant is quite extensive, and is conveniently filled with transformers. If you were to stand on a viaduct overlooking the plant, it looks like a forest of transformers and radiators. There are actually 404,500 k. v. a. of transformer capacity in the station, most of which is in the yard. 5799

In addition to that, there are 60,000 kilowatts of a particular type of frequency changes. This group of transformers, which I believe is about as big an aggregation as you would ever find in any one sub-station, is at all voltages from 138,000—60 cycle, to 66,000—60 cycle; 13,200—60 cycle; 33,000 volts—60 cycle; and 110,000 volts and 13,200 volts—25 cycle. We have all those voltages and frequencies,

in addition to which we transform to a distribution station in the same yard, and distribute through a multiplicity of feeders at 4,150 volts. That 4,150 volts is usually referred to as 2,300/4,000 distribution. The individual single-phase circuits are 2,400 volts at the customer.

—2,505—

The frequency changers are known as Scherbius types, and were first developed for application in the steel mills on a little different basis, but the principal was interesting, and
5801 in our case it was almost essential that we use that type of machine, which costs more than an ordinary frequency changer.

I will explain that as well as I can. The 25-cycle system at Keokuk is a right extensive system. It also has possibilities of being interconnected with other systems of even possibly larger magnitude. The 60-cycle system is already extensive, having several hundred thousand kilowatts of 60-cycle generating plants connected to it.

The result is that any machine placed between those two systems will be subjected to a tremendous twist or torque
5802 if there were a short-circuit or shift in frequency on either system.

Investigations were made to determine what type and size of frequency converter or frequency changer—which is the same thing—could be adopted. If we used a straight synchronous-synchronous set, the calculations indicated that we would twist the shaft off on any machine smaller than probably 40,000 kilowatts, and if we were to put in 40,000-kilowatt machines, which we didn't need at the time, we only needed 20,000 to begin with, that if any extensions were

made to either system, such as the plant we are now building on the 60-cycle end, or if some connection were made to the Keokuk system through other utilities, and the requirements would then be increased, that that machine would be inadequate. —2,506—

So we investigated the possibilities that this other type of machine which is known as a slip frequency converter, which does not rigidly tie the two systems together, but permits a transfer of power between the 25 and 60 cycle systems, at the same time allowing the same to slip, with respect to each other. 5804

It has one what might be called disadvantageous feature, really it isn't from our viewpoint, namely, that the time on the two systems cannot be controlled from the other. That is, if we have clocks on the 25-cycle system, you couldn't control them from your 60-cycle system because this slip frequency converter would allow the frequency to vary. So we have to control the time on each system independently. That is a difficulty.

These two converters, which were first installed in the Page Avenue station in 1929, also contain in the 60-cycle end 15,000-k. v. a. condensers each, or a total of 30,000, which are used to operate the Osage-Page Avenue circuit. In other words, they act as independent synchronous condensers would do, and thereby we were able to economize and avoid having to purchase separate condensers for operating the line which we would otherwise have had to do. And at the same time, we get the benefits of the conversion from 25 to 60 cycles, or from 60 to 25 cycles. 5805

5806 *Stanley Stokes—By Respondents—Direct*

Now these machines were put in, as I say, at the time when the load was growing most rapidly, toward the end of 1929, and were intended to operate in either direction, but primarily were expected to furnish Keokuk with 25 cycles additional reserve from our 60-cycle system. In other words,

—2,507—

it is much cheaper for us to generate at 60 cycles, and then put the current through these frequency changers whenever it is required, because we can use them in the reverse direc-
5807 tion as well, than it is for us to produce at 25-cycle generation.

The load at Keokuk had been growing rapidly, and these machines were supposed to give the additional assistance.

At about the time we completed the installation of these machines, the depression came on. With us it didn't really hit us until toward the end of 1930, because we were in the process of adding on the St. Joseph Lead Company load and certain other changes which carried our load on for almost a year after the break in 1929; but it ultimately got to us, that is, the depression, and the big industrial power cus-
5808 tomers at Keokuk reduced their operations, just quit.

During the years following that, in the depression, we would have lost a very large amount of water power which would have had to have gone over the dam and be wasted, for the simple reason that our night load and part of the time our day load would not have been sufficient to use it up at 25 cycles.

These machines, working backward from the most frequently contemplated method, that is supplying from the 25-cycle to the 60-cycle system, produced during that depres-

sion period a very large amount of energy; a total of 964,000,000 kilowatt hours of Keokuk power have been converted to 60 cycles, and 692,000,000 k. w. h. have been supplied to

—2,508—

the 25-cycle system from the 60-cycle generating facilities.

Q. During what period was that? A. Starting at the time they were installed, or shortly after, practically in 1930. They were installed in the latter part of 1929.

Calculating the earnings from this interchange over a 10-year period, we estimate that the machines have actually 5810
saved, for the Union Electric Group, more than $2,000,000, to say nothing of the value of the reserve capacity to the 25-cycle system.

I may say that that was a great deal more than we had expected when we installed them.

The result was that at the end of either 1937 or 1938—and if it is important, I can identify the date—we decided to put in an additional machine similar to the previous ones, but of somewhat larger size, due to a change in design and to include more what we call 60-cycle corrective capacity. It acts as about a 25,000 to 30,000 synchronous condenser, 5811
and will transfer 20,000 kilowatts either way in addition. That machine was installed and has operated beautifully. We had considerable difficulty with the others to begin with, due to mechanical breakage, but the new one is a very perfect device. Those machines represent one shaft with about seven independent units on it. It is, roughly speaking, 80-some-odd feet long, and would not go in this room. It has a 25-cycle generator, a 60-cycle generator, a unit known as a converter unit, a regulating unit, and an exciter, and

—2,509—

a high-speed exciter known as a pilot exciter—all mounted on one shaft.

It is a very interesting machine. I don't know that it has any particular bearing here, but it is indicative of the increasing cost to state that the machines in 1929 cost us $292,000 apiece, to purchase, and when the quotations on this machine were running up into very much higher figures, a quotation was requested on a duplicate of the 1929 machine. That was received, and it was $456,000. The
5813 actual price paid for this last machine was somewhat more than that because it was larger.

Along that same line, a recent inquiry was made as to what we could purchase one of the water wheels for the Osage hydro-electric plant for. They cost us $175,000 when purchased somewhere around 1932. The proposal was for $300,000, indicating the extent of price increase in some of the lines of this equipment.

The Page Avenue sub-station is an indication of what modernization can do in a plant. To begin with, it was
5814 designed to have a total capacity of 60,000 kilowatts, of 25-cycle power, and twelve 5,000-kilowatt single phase transformers. Each of those transformers was a huge device, much higher than this room, with tall bushings, and bushings made out of paper slips, the best they could do in those days. They were indoor transformers and couldn't be operated outside because nobody knew how to develop bushings that would stand the outside. —2,510—

In that same area, the same building, with some extension, we now have the 404,500 kilowatts of transformer

capacity which were referred to here, plus these frequency changers, plus a large size distribution station for outgoing regulated 2,300/4,000-volt circuit. The original transformers, of course, were removed from within the building, and we took the place of twelve 5,000 units with two 3-phase units out in the yard, which occupy some ten per cent. of the yard. Then the space which was made available in the building was changed around and a floor added, and a 60-cycle bus structure installed in the second floor, and additional structures in the first floor, and a little at a time it 5816
has become a modern power plant of today's vintage.

So that shows what the changes in the art have amounted to in that period of time.

Q. Have you any idea as to the amount of investment represented in that sub-station? A. I don't know whether I can approximate it or not, it is a figure that would be readily available, but I am not sure that I have it with me.

Q. Just leave that then for the time being. A. If it is important I will make a note, and get it. I don't like to guess at it at all. I can state what the last frequency changer job cost. That was $840,000, including the building, 5817
equipment, transformers, and so forth. The transformers that received the power from Osage, receiving terminal

equipment, cost $161,000 per bank, and relatively the total investment out there must represent—oh, I would estimate it roughly as three or three and a half million dollars, something on that order.

Q. Now what has been the record of the Union Electric Group with respect to its growth in generating capacity over a period of years? A. The load has grown, and the generat-

ing capacity has kept up with the load growth. We had 143,500 kilowatts in 1913, and that has grown to this figure of 722,500 kilowatts name plate rating with an effective dependable capacity of 630,000 kilowatts by 1940. The growth has been fairly steady and rather uniform. As a matter of fact, from 1911 about, to the World War, or even beyond, I would say from 1911 to 1924, our system load, when plotted on logarithmetic paper, has almost exactly followed a straight line for all of those years, and the slope represented
5819 doubling every seven years or thereabout. In other words, it doubled consistently about every seven years from 1911 to about 1924.

Then it started to increase there for a while a little more rapidly, and then came the depression. Since 1934, about, the rate of increase is again fairly uniform, part of which is accounted for by recovering load lost in the depression, and the rest of it is due to added load.

At the present time, the total system is growing at about

8 per cent. per annum, but we have to anticipate the possi-
5820 bility of almost a 10 per cent. growth a year for the next two or three years? It seems necessary to base our power plant program on such a possibility.

Q. 10 per cent. a year, you mean? A. For the next couple of years. By that I mean, to make the statement a little more exact, we have decided that in installing this equipment at Venice, and subsequent equipment, that for the period of the next two or three years we will set up a power plant program based on 10 per cent. system growth, but will calculate the economies of operating units on a basis of 8½ per cent. growth. What that means is simply this, that the possibility

of large chunks of National Defense load is so imminent that we have simply got to have a little more latitude in our construction program than we really expect for operating purposes.

So even though we are planning this program on a 10 per cent. basis, we don't feel quite justified in calculating the actual load itself on that basis, but we do need a little insurance, a little leeway.

There are two or three single loads being considered that we don't know to what extent they may grow. For example, 5822
we have no way of knowing whether this wind tunnel which the Government has been considering at various locations, and which is still being discussed—we have to consider the possibility that they may be located there; and we have to

—2,513—

observe the Curtiss-Wright situation where they can readily add 5,000 or maybe 10,000 kilowatts—and those two figures, together with the possible industry location here of 20,000, would themselves total 50,000 kilowatts right there in three items.

Now they may come all at once. The result is that there 5823
doesn't seem to be anything to do but to plan for it, and then slow down as soon as we have any knowledge of the facts.

The Examiner: Mr. Hamilton has another matter before the Commission that he wants to attend to at this hour, so we will recess until tomorrow morning at 10 o'clock.

(Whereupon, at 4:05 o'clock, p. m., the hearing was recessed until 10:00 o'clock, a. m., Tuesday, October 22, 1940.)

—2,514—

5824

BEFORE THE

Securities and Exchange Commission

Docket No. 59-10

IN THE MATTER

of

THE NORTH AMERICAN COMPANY, *et al.*

5825

Hearing Room 1102-A,
Securities and Exchange Commission Bldg.,
Washington, D. C.,
Tuesday, October 22, 1940.

Met, pursuant to adjournment, at 10 o'clock a. m.

5826

Before: W. W. SWIFT, *Trial Examiner.*

Appearances:

S. PEARCE BROWNING, JR., and CHARLES S. HAMILTON, JR., of Sullivan & Cromwell, 48 Wall Street, New York City, Attorneys for the Respondents.

RALPH C. BINFORD and ARTHUR J. BUSWELL, Attorneys for the Securities and Exchange Commission.

PROCEEDINGS

The Examiner: The hearing will come to order.

Mr. Hamilton: Will you resume the stand, Mr. Stokes?

Whereupon, STANLEY STOKES resumed the stand and testified further as follows:

Direct Examination by Mr. Hamilton (Continued):

5828

Q. At the conclusion of the hearing yesterday, Mr. Stokes, I think you were in the process of describing the development in generating capacity of the Union Electric Group from 1913 on, and had given some figures in that respect. Will you continue your statement? A. I believe I stated that in 1913, we had a capacity of 143,500 kw. which, by 1940, had grown to 630,000 kw.

The process by which this growth took place is worth a little mention. In 1913 we had service from Keokuk and Ashley steam plant. By 1920, this service, which was originally 143,500 kw., had grown to 160,000. That was primarily 5829 due to the addition of a 20,000 kw. unit at the Ashley Street station, together with certain other withdrawals as the boilers and units began to get old.

By 1925, the total had become 284,000. This large increase started in 1923, with the addition of the Cahokia station, whose first section was built in that year.

—2,516—

In 1924, there was an addition of a 35,000 kw. unit at Cahokia, and another one in 1925. The figure again increased from 1925 to 1930, from the 284,000 to 435,000 kw. That was

the result of several changes, including the acquisition of the Rivermines plant.

Now in addition to that, there was an addition to the Cahokia plant in 1927 of 50,000 kw.

Referring to the previous statement of capacity of 435,000 in 1930, in the following year, 1931, this changed to 550,000 due to the addition of the Osage hydro-electric project.

Coming up to 1938, we increased the rating of the Osage project by 15,000 kw. This change was not a change in the
5831 physical property at Osage, but a change in the size of the system load with resultant effect on the duration curve, which permitted Osage to increase its annual peak cut-off by that amount. This was in accordance with the original plant at the time the plant was built, in which we first rated combined hydro at 185,000, then at 200,000, and ultimately at 225,000, above which it will not be carried.

It of course must be understood that as these ratings for peak output are increased, the hours of use have to be correspondingly reduced, because the total k. w. h. is practically a constant.

5832 By the year 1940 we had attained a total of 630,000 due to a combination of minor changes, removal of a 5,000 kw. unit from the Alton steam plant, and an increase of boiler

capacity at Ashley Street.

That is about the history, roughly, of the development.

Q. Now I think it would clarify matters somewhat at this point, if you would state the year of installation of each of the units in each plant, and at the same time indicate the capacity of each unit, and the voltage at which current is generated, and any other information which seems to you

appropriate. A. The first plant to be described is Cahokia. The units in these power plants are given numbers. When I say No. 1, that is the number by which that unit is referenced.

Unit No. 1 is a 75,000 kw. unit, installed in 1929. It has a power factor of .9. All of the Cahokia units are of the same voltage, 13,800 volts, and the frequency is 60 cycles. No 25 cycle equipment is located at Cahokia.

Unit No. 2 is rated at 30,000 kw., has a power factor of 85 per cent. In expressing power factor, it is proper to say either 85 per cent. or .85, either is all right in this case. The 5834
year of installation was 1923.

No. 3 unit—35,000 kilowatts; the same frequency and voltage as previously stated, and .95 per cent. power factor, installed in 1924.

Unit No. 4—35,000 kilowatts; power factor .855; installed in 1925. —2,518—

Unit No. 5—50,000 kilowatts; power factor .9; installed in 1927.

And the last unit, No. 6—75,000 kilowatts; power factor .8; installed in 1937.

Now I should explain at this point why Unit No. 1 hap- 5835
pens to come in there in 1929, while No. 2 was installed in 1923. Unit No. 1 was installed in place of an original unit No. 1, a 30,000 or 35,000 kilowatt turbine, which was removed and installed in a plant at Venice, the new turbine setting on the same foundation as the old one, with some additions to it.

It was found possible, by moderate changes in the foundation, and miscellaneous building equipment, to accommodate a 75,000 kw. turbine in the location and with the facilities originally provided for a 35,000 unit. It of course required

a new condenser, new pumps, and increased capacity of boilers.

At about that time a better method of arranging the furnace walls in boilers had been discovered, and due to this improvement it was possible to get more capacity out of the boilers by a moderate rebuilding program. Naturally, this served to reduce our unit costs to obtain 75,000 kilowatts, whereas previously we had only had 35,000.

Q. Now in the case of Cahokia, the aggregate name-plate
5837 rating is the same as the aggregate dependable capacity? A. That is right, that is an unusual condition, where you can

rate your plant in total for practically all requirements equal to its combined name-plate rating.

We are not quite certain of our ground to go any higher than that, but we have reasonable assurance that we can increase that rating slightly in the wintertime, and we are not quite certain yet, because of lack of experience with the last installation, as to what the limitations are. I personally feel that the turbines in that plant could probably be driven
5838 to considerably above 300,000 in cold weather, when the condensing water is cold, but I do know that the boiler limitations at present would not permit that.

We are installing some thermo-couples and other measuring equipment to try to learn as much about the actual capacity of this equipment as we can. That, of course, gets back to a matter of rating equipment, and a manufacturer can only state one set of conditions at which his machine will operate when he puts a name plate on it, and that is the set of conditions for which the machine is designed. In actual

practice, there are many other sets of combinations of circumstances which may cause that capacity to be either higher or lower than its name-plate rating, and when you come to a large system, that is a matter of considerable consequence.

The system power factor as a whole is approximately .9, at times of peak load, and goes down to a considerably lower figure at light load periods. We have, however, in recent

years, installed a very large number of capacitors on our distribution system, which, a little at a time, are improving 5840 the power factor.

The application of synchronous motors, by a good many of the industrials, and particularly in connection with some air-conditioning work, where large units are being installed —those synchronous motors are of material assistance in power factor improvement.

In general, we have a rather satisfactory power factor situation at St. Louis.

Now, taking up the next plant, the Ashley Street plant, which has been previously discussed, its Unit No. 1, rated at 10,200 kilowatts, 60 cycles, .8 power factor, was installed in 5841 1921. The voltage of that unit is 4,500 volts, and it is used to feed directly into the distribution system for general purpose use.

Unit No. 3 (Unit No. 2 having been removed at some point, or the numbers changed and no longer exists)—12,000 kilowatts; 6,600 volts; 25 cycle. This is a unity power factor generator installed in 1910.

Unit No. 4, and Unit No. 5, are duplicates, installed in 1910 and 1911, No. 5 being in the latter year. Those machines are operated in conjunction with our 25 cycle power received

from Keokuk. The major use of this power is for the supply of the railway load (street cars), in the city, and also to

—2,521—

supply our so-called Edison sub-stations, which convert the 25 cycles to direct current.

No. 7 machine, a 20,000 kilowatt machine, 4,500 volt turbine, at 60 cycles, has a power factor of .8, and was installed in 1917.

No. 6, which I passed over, was a 12,000 kilowatt machine,
5843 4,500 volts, 60 cycles, unity power factor, installed in 1910.

Those two machines operate with No. 1 to supply normal distribution requirements on our radial system.

Q. At what voltage? A. 4,500 volts. That is No. 1, No. 6 and No. 7.

No. 8 is a 20,000 kw. turbine, at 6,600 volts, 25 cycles. This machine has a power factor of .9, and was installed in 1920. It operates with Nos. 3, 4 and 5, previously described, and in the same manner.

Q. And at the same voltage? A. And at the same volt-
5844 age.

No. 9 is a 20,000 kw. turbine, at 13,200 volts, 60 cycles, and a .8 power factor, installed in 1920.

This completes the individual machines in Ashley Street.

Q. Now summarize, if you will, for Ashley Street, the name-plate rating and dependable capacity? A. That totals 98,000 kilowatts of name-plate total capacity. The dependable rating is 65,000. That is limited by boiler capacity. A turbine is constantly kept in repair and rebladed, and can

—2,522—

be maintained in its original operating condition, as far as

satisfactory, reliable service is concerned. Boilers cannot. Boiler tubes can be replaced, but the time comes when the boiler setting, bracing, and other features, have depreciated to the point at which the steam pressure has to be lowered, and hence those boilers have to be removed and the turbine is still good.

So that the capacity of the boilers has declined to the point at which we rate the plant at 65,000. Among those boilers, however, are two new 300,000 pound per hour units, which are now being installed and will be ready for operation this winter. The plant supplies, in addition to its electric requirements, some steam heating load, which will be discussed more in detail later, and that accounts for the installation of these boilers to a large extent, that and the most attractive location of this whole plant in the center of the city, which makes it very suitable for reserve operation. 5846

The next plant to be described is Venice. It has three units.

No. 1—20,000 kilowatts; 13,200 volts; 60 cycles; 95 per cent. power factor, installed in 1924.

No. 2—35,000 kw.; 13,800 volts; 60 cycles; and 95 per cent. power factor, installed in 1929. That is the unit which was removed from Cahokia, as described previously. 5847

No. 3—7,500 kw.; 2,300 volts; 60 cycles; and .95 power

—2,523—

factor; put in in 1919. This last unit is a very reliable little turbine, and is particularly useful as a secondary source of power supply for the auxiliaries in the event of failure of the main source. It also can be used on peak to add its increment to the total.

5848 *Stanley Stokes—By Respondents—Direct*

Q. Now in each case, if you will, will you summarize for each plant the dependable rating and the name-plate rating? A. The total name-plate rating of that plant is 62,500 kw., and it again is limited to 40,000 kilowatts by boiler capacity.

At this point I should like to make a little explanation of this plant. The 20,000 kw. unit is a modern type turbine designed for 350 pounds pressure at about 750 degrees. There are two very high-grade, relatively new boilers in the plant. We will, at some day, add boiler capacity to bring
5849 this turbine up to its full pressure. At the present time it is operating at reduced pressure. But the size of the net gain in capacity is so small that at the present time we have decided to give precedence to the construction of a new and larger plant, and let this go until it seems to be the most economic time to install it. Along with it, we contemplate the possibility of adding an additional wheel at the Osage plant. Those two, working together, will add about 35,000 kw. to our system capacity, and this will undoubtedly be an economical move at some future date.

—2,524—

5850 The next plant is Rivermines. It has two units installed; One, No. 4, the first one, 12,500 kw.; 7,200 volts; 60 cycles; and .8 power factor; installed in 1923.

No. 5—12,500 kw.; 7,200 volts; 60 cycles; 80 per cent. power factor; installed in 1925.

These units are in first-class operating condition. They haven't received a great deal of hard use, and we have recently spent considerable money on the boiler plant and consider that plant, which totals 25,000 kw. for the two units, to be a thoroughly reliable, quick-starting, satisfac-

tory reserve plant to be brought into operation whenever required.

It has, for several years, been carried as what we call cold stand-by, that is, shut down, ready to start, but not running. It has, however, been run some this fall.

The dependable capacity is also 25,000.

I might summarize the combined steam plants there, which total, in name-plate rating,—485,000 kilowatts; with a dependable capacity of 430,000.

5852

I might as well go right ahead and describe the Keokuk plant. It contains units numbered 1 to 15, inclusive, 15 units in total, each of 7,200 kilowatts; 11,000 volts; 25 cycle; and .8 power factor; installed in 1913. That makes a total installed capacity, name-plate rating, of 108,000 kilowatts.

Before discussing the dependable capacity, I want to describe the Osage plant. —2,525—

It contains units numbers 1 to 6, inclusive, 6 units in total, of 21,500 kilowatts each; 13,800 volts; 60 cycles; and .8 power factor; installed in 1931. Those turbines have a 5853 dual rating at either 21,500, or 26,000 or 27,000, depending on the temperature. It is what is known as Class B, or Grade B insulation, mica, and 80 degree Centigrade operation will not deteriorate it.

The combined name-plate rating of those two plants is 237,000 kilowatts.

I could put in a statement as to the maximum output we have obtained from them, which I believe has been 160,000 out of Osage on a short-time peak, and 135,000 from Keokuk, but the two, taken together, are given a dependable rating

of 200,000 kilowatts for annual peak for cut-off purposes. This has been mentioned to some extent previously, and in the discussion which may follow on operations, I would like to mention it again.

The rating of a combined group of hydro plants, one of which operates on stream-flow, and takes the run-of-river, and the other which operates on a storage basis, can be given almost as many ratings as one wants to. Each rating depends entirely upon the purpose for which the plant is to be
5855 used, the time of the year, and the length of time for which it is to be run. It is a very difficult thing to rate that type of a plant. —2526—

Q. Now state, if you will, the aggregate book value of the electric generating facilities of the group? A. The total investment in these plants at the end of 1939 is approximately $103,400,000, as taken from the company's books. The division of that investment is: Ashley Street—$10,700,000; Cahokia—$32,100,000; Venice—$5,100,000; Rivermines—$2,900,000; Osage—$31,500,000; Keokuk—$21,100,000.

5856 Now these figures are the net investment in power plant facilities only for electric purposes, and do not include any transformers, substations, or other equipment which is actually contained even within the plant. It is a specific designation up to and including the buses. Those figures may be increased by a large percentage when all other factors are included. As a rough example, I think that the Cahokia figure of $32,100,000 would, if the sub-stations and other equipment in the yard were to be included, amount to somewhere between $37,000,000 and $38,000,000. Likewise for the other plants.

The development of the electric light industry in St. Louis was quite early. I don't know the circumstances which brought it about, but I do know that the only cities that were mentioned as having electrical facilities in 1890, in the 1890 Census, were St. Louis and New York. The first plant in St. Louis was an arc-light machine, imported by a famous restaurateur, Tony Faust. He had a rather famous restaurant for many years in the early days. That machine was brought over from Paris by him in 1878, and in the

—2,527— 5858

ensuing 20 years there were a number of so-called systems installed in St. Louis, and the art developed very rapidly.

I would like to give this little connection with these other plants to illustrate, along with the growth of the load and the installation of these various units, a little background to go with it.

By 1898, one of our predecessors, the Missouri Edison Electric Company, could claim such outstanding achievements as the operation of alternating generators in parallel, the use of induction type feeder regulators, the distribution of power by an AC network, and the operation of the world's 5859 largest AC arc-light station. The company had a load factor of 20 per cent., as compared with our 60 per cent. load factor of today.

The discussion and mention of all of the different systems entering into the present Union Electric Company of Missouri, is a very interesting chapter, and contains a long list of names of companies, which I will not attempt to detail at this point.

The Union Electric Light & Power Company was organized in 1902, and had three power stations, A and B, and

Ashley Street. One of those stations, Station B, is now used as a storeroom, and the old foundations of the old Edison machines can still be seen back in one of the buildings.

—2,528—

Station A has completely disappeared as far as any equipment is concerned, and with all of the later acquisitions and consolidations, the company has now become the present Union Electric Company of Missouri.

I should at this point mention the new plant which is
5861 now under construction on the Venice site. It will have two 40,000 kilowatt units initially, and will be designed for an ultimate of 400,000 kilowatts.

Q. And those two units which you have just referred to, are in addition to the references to the capacity of the Venice plant previously mentioned? A. Yes. We will distinguish those Venice plants by referring to the present existing plant as Venice Plant No. 1, and the new plant which is now under construction as Venice Plant No. 2.

Q. I don't think you mentioned, Mr. Stokes, the Cupples generating station. Do you want to refer to that very
5862 briefly? A. The Cupples Station is a very small plant which our people in the engineering department neglect entirely in our consideration of the plant as a whole. We have a steam-heating connection to what is known as the Cupples block, it is a block of buildings in the downtown area of St. Louis, owned by Washington University, and we supply steam to heat some of those buildings, and that steam is taken from our regular steam mains, and because the machinery was already available, and because they needed some method

of reducing the steam pressure down to the heating pressure, it is put through a small 420 kw. generator and runs when the steam-heating season is in operation. It would have no effect on our system capacity. The energy which may be generated by this little machine is fed back into the Union Electric Group system.

Q. Now are these generating plants interconnected? A. They are, they are interconnected with both cables and overhead lines of considerable capacity.

The interconnection between these plants has been made 5864
more than ordinarily heavy. By that, I mean that the size of wire, such as 300,000 circular mil conductors, and voltages of from 33 to 66 thousand volts, with short distances, permit the transfer of rather large blocks of power between plants.

The necessity for such high capacity provisions is primarily brought about by the desirability of obtaining power from the hydro plants and distributing it to any point in the system, and particularly to be able to get it to the major steam plants. When the hydro system has its maximum capacity, the steam plants have to stand by, and when it is
at the lowest point, they have to run at capacity. 5865

Having provided this interchange of capacity between plants, it has many other useful purposes. It acts to supply reserve from one plant to another, as the result of the sudden loss of a unit; it permits the Osage plant to pick up loads

quickly in emergencies, which can not be done by a steam plant. The reservoir at Osage is at all times able to handle more load than is usually being carried by the plant, and for

periods of a few days to ten weeks, this plant can act as what is termed spinning reserve.

—2,531—

We have even gone so far as to provide some automatic equipment to permit the generators at Osage, or at least two or three of them, to be motored, that is to operate as a motor, being driven from the rest of the system, and we open the gates and let through just enough water to keep the bearings cool and keep the machines operating properly, and also meet
5867 the Government requirements of minimum stream flow.

Under these conditions those wheels can come up from carrying practically no loads to full loads, in a matter of theoretically almost seconds, actually we don't depend on them under about two to three minutes total, but they have actually functioned in less time. Now that type of reserve is very convenient.

In addition to that, the capacity of the various transmission lines permits the diversion of power from one part of the system to another. Our main transmission lines are of very modern construction and in a number of cases are com-
5868 pletely equipped with load ratio control transformers. These will be described a little more later but they permit changing the ratio of transformation while under load, without the necessity of taking the transformer off to do it. This sort of a device is expensive. We have just included one on each of the four transformers being purchased for the new Venice plant, at an additional cost for the four of around $160,000. That is for the facilities alone. That does not include the transformer.

—2,532—

An example of the use of such a transmission system in providing reserve is, I think, of interest. On May 13th, 14th and 15th of this year, we had a situation exist in the Mississippi River which had never occurred before, and we have had plants operating on the river, as indicated here, all the way back to 1902.

At the time we didn't know what was going on, but all of a sudden leaves and trash, and debris of all kinds just came down in a flood, started without any notice, and stopped up the condensers. We have the latest type of 5870
rotating screens to prevent debris of any kind from getting into the condensers. These are so-called travelling screens that act like a chain belt, going over a roller and down into the water and back up again, and the water flows through this screen, and as the screen reverses at the top and starts down there is a spray of water to wash it off clean.

These leaves and trash came in, in such a volume that they went right over the screen, and the stream of water couldn't wash it off the back side and they got on the other side of the screen and into the condensers. And without any particular warning, unit No. 5 had to be shut down 5871
twice on May 13th. On May 14th, unit No. 5, that is a 50,000-kw. unit, had to be shut down——

Q. (Interposing) At what plant is this? A. Cahokia—that had to be shut down three times; and on May 14th, unit

No. 6, a 75,000-kilowatt unit, had to be shut down twice.

On May 14th, unit No. 3 had to be shut down twice.

On May 14th, unit No. 4 went down twice.

On May 15th, unit No. 4 was down once.

On May 15th, unit No. 6 had to be again taken down.

Each time, to clean the leaves and trash out of the condensers. Now that is a pretty severe situation when you realize that 75,000 and 50,000 and 30,000 kw. units were going down fast. Each shutdown was for a period from two to two and a half hours minimum, in which the condensers could be cleaned and the capacity of the remaining units was reduced by the gradual impeding of the flow of water
5873 through the remaining units. During this entire period of disturbance it was possible to pick up the load at other plants through the transmission system without any outages whatever to customers.

The Osage plant functioned beautifully during this particular period. So that the investment in these tie lines as we call them, which is justified as a necessary expense of transferring hydro power, has an extremely important part in the general operation of the system, as well, and serves for reserves, transfer of loads, reduction in standby operating expenses. If we didn't have these circuits as extensively as we have, we would have to operate more machinery
5874 in the older plants for reserve purposes.

—2,534—

Q. Would you say then that the fact of the interconnection of these generating stations results in economies of operation? A. It does, that is the tie lines naturally provide certain increased fixed charges which exist, and which would not exist if we didn't have them, but the other side of the story is that they serve to make a general overall economy for the system and are, in addition to that, a major source

of safety to the operation. If the economy in the operation of these circuits merely balanced the fixed charges, we would have an insurance factor for service that could not be overlooked.

Q. Is it, or is it not a fact that power from any of the generating stations can be made available to any part of the electric service area of the Union Electric Group by means of the transmission line connections? A. It can, to the extent that the capacity of the lines permit, and that is a considerable portion of the total. For example, the 5876
three circuits which are normally in daily use from Osage can each transfer approximately 50,000 kilowatts. The tie lines between Cahokia and Venice can each, at the same time, handle 50,000 kilowatts or transfer 100,000 kw. between Cahokia and Venice.

Similarly, between Venice and Page Avenue, we can transfer 100,000 kw. at 60 cycles, and in addition to that have a large number of 13,800-volt cables which can transfer about 35,000 or 40,000 kilowatts Ashley to Page at 25 cycles at the same time.

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The net effect of this thing is this, that we can transfer all of the load which we care to transfer. If we were to transfer all the load of one major plant into another major plant area, we would sacrifice the reliability of service because if that connection were to be interrupted for any reason, it would be difficult to pick up that large block of load on any remaining plant.

And consequently, we would, for other reasons, limit the amount of transfer of load from one load area into another

as a matter of system reliability, even if we did have more facilities than we now do. That point has been brought out repeatedly in connection with system reliability and system disasters, that there comes a point at which economy can properly be sacrificed for safety in operation.

On our system, 100,000 kilowatts is, in my opinion, the upper limit at which we should transfer loads between load areas unless we are actually standing by with excessive capacity in each area; in other words, that latter statement
5879 means that there wouldn't be any economy in operating that way, it would be a matter of rather a temporary nature.

The best summary I can make on the thing is that the operation of these lines does result in major economy to our system and that we would have to put them back in again if they were not there.

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Q. Referring to Respondents' Exhibit No. 51, which is the system map, is it or is it not correct to say that power generated at Keokuk could be made available to the service area shown around the Osage hydro-electric project, by means of
5880 a transmission line? A. It could very readily and may do so. Keokuk, although it is 25-cycle generation, delivers its power through 60,000 kilowatts of frequency changers on to the Page Avenue sub-station, 60-cycle bus. The Osage hydro-electric transmission circuits terminate on this bus, so that Keokuk not only could deliver that power out to the Lakeside Light & Power Company, but it wouldn't know it was doing it. The load out there is relatively small.

Q. And the converse might also be true, that power generated at Osage might be made available to the service area in and around Keokuk? A. It not only can, but it is. That

is, at times when we have occasion to supply power to Keokuk, we may take it either from steam generation or from the Osage plant. We must keep in mind at all times in this connection, that Osage is a storage plant and Keokuk a stream-flow plant, and that there may be power available at Osage when there isn't similar power available at Keokuk in excess amount.

The facilities for transferring power are fully adequate. We have anticipated a system of different totals, starting with 500,000 kilowatts peak load, and carrying it on up to 5882
1,000,000 kilowatts for the ultimate future, and the prob-

ability is that we will not require more than two addition lines to take care of the situation for many years in the future.

One of those will be an additional cable between Page Avenue and Venice, and another may be an additional tie line between Venice and Cahokia, as the Venice plant becomes very greatly increased in the future. And with those two circuits, we feel that we will be able to handle the system load of double its present magnitude, the reason being that 5883
the amount that we would want to transfer from one area to another is roughly limited to 100,000 kilowatts, and we will have that amount available in transmission capacity.

Q. I asked you yesterday if you could state the approximate investment in the Page Avenue sub-station, and you were somewhat in doubt as to the amount. Can you now state the amount of that investment? A. I believe that I hazarded a guess that it would run on the order of magnitude of three and a half to four million. The actual figure is, I

believe, available. The station has a present investment, as of the end of 1939, of four and a half million dollars. It was originally built in 1913 at a cost of $710,000. The modernization of this station, and constant change to keep up with the art and with the requirements of the system, has been very interesting to me, and is really only equalled, in my opinion, by some of the changes that took place at Ashley Street

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where, in the early days, they had steam engines, they re-
5885 moved them and put bigger units on the foundations and then they installed 5,000-kilowatt vertical turbines, and due to the improvement in the art those 5,000-kilowatt turbines were replaced by 12,000-kilowatt turbines in the same space and on the same foundations. Then the big triple expansion cross compound engines, which were the glory of the power industry at the St. Louis World's Fair, were then cut up with a blow torch and removed, and 60,000 kilowatts in turbines were put in, in the place of two of those. I believe they were originally 4,000 kilowatts each, engines, but they were beautiful pieces of machinery.

5886 That Page Avenue job has been analyzed by various engineers as a good example of the changes in the art.

To start with, we had to have a cooling basin for the transformers. Now that basin is as big as two ordinary swimming pools, such as you have at a country club, and cost a lot of money, and they have to pump the water from that basin a distance of about 800 or 900 feet with large pumps and circulate it through all the banks of transformers, and then the water scales up the cooling coils in the transformers, and then the transformers got too hot, and then the coils corroded and leaked, and the transformers failed. Today that

is all done away with, and we have what are known as combination self-cooled and air-blast transformers. These transformers, for example, will have a rating of 37,500 kilowatts,

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self cooled. That means that the radiators are just exposed to the air in the normal manner, with no blast of air directed on them. Then, by turning on blowers, we can increase that capacity to 50,000 k. v. a. This feature, which is a relatively recent application, is particularly applicable for reserve. I 5888
mean, if you have two transformers, or say better three, whose rating is 100 kilowatts each, and whose maximum rating is one-third more than that, then if you have lost one you can turn the blowers on the other two and still get your full rating. It is a relatively cheap form of reserve, and very convenient. Those blowers go on automatically in case the transformer temperature goes above a certain amount.

Q. Will you now describe the practice of the Union Electric Group with respect to maintaining reserve capacity? A. The reserve capacity required for a system is determined by a large combination of circumstances and is not a rigid 5889
thing that can be laid down by some one person and be sure that that decision is the only correct one.

I will illustrate this. If a system has the largest unit, a 25,000-kilowatt turbine, it would not ordinarily require as much reserve as if the largest unit were a 100,000-kilowatt turbine. That is perfectly obvious, because if you lose 100,000 at one time, you would have to have more standby reserve. On the other hand, if you tried to carry a 500,000-kilowatt system peak with 25,000-kilowatt units, you wouldn't

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worry, by that time, about losing one of them; you would have so many of them down for overhaul at one time, due to regular maintenance schedules, that you would finally come back up again and require a large amount of reserve.

So that the answer is this, the amount of reserve required first is a function of the amount of insurance that you feel can be justified against losing any load. Secondly, it is related to the size of the largest unit on the system. Third, it is again related to the number of those large units on the
5891 system. Fourth, it is directly affected by your schedule for overhaul and repair of the large units.

For example, we have a schedule requiring the complete inspection and overhaul of all of our main power turbines once every two years. Now perhaps some people might consider that to be too rigid a schedule, and would be willing to let them go for three years. If you extend your overhaul schedule and inspection to every three years, instead of every two, the probabilities that you will have trouble on your peak load are far greater than if you inspect them every two years. Consequently, if you get three 80,000-kilowatt
5892 turbines, or four, which we have in prospect, on a system, and overhaul every two years, you are going to have two of those down in a given year, and if it takes about five weeks to thoroughly overhaul a 80,000-kw. unit, then you have got 160,000 kw. down during the same year, or you have got

about 10 weeks total in which 80,000 is out of service.

Not only that, but you have got to fit in the overhaul schedule on your remaining smaller units.

To illustrate what we really do, I will use some figures. We have an anticipated winter peak this winter of about 515,000 kw. We have at the present time 630,000 kw. of effective dependable capacity. That would appear, on the face of it, to have only about 115,000 kilowatts of reserve.

In addition to this, we have excess or dump power contracts that permit us to drop that load anytime the water power is low. It is sold at a cheaper rate and available only when the water power is high. So that gives us from 15,000 to 30,000 kilowatts leeway. That load is a variable quantity. 5894
In addition to that, we have another 5,000 kilowatts of 60-cycle reserve contracts, which, on notice, can be dropped in the event we have any trouble on the system. We will add those up, and that gives us an approximate figure today of between 135,000 and 140,000 kilowatts of reserve, over and above the depreciated rating of our plants, that is the 722,000-kilowatt name-plate rating, which we have reduced arbitrarily to 630,000 kilowatts of dependable capacity, and then below that we have from 135,000 to 145,000 kilowatts of reserve, and then our load.

Now we don't consider that we need that much reserve, 5895
but we are willing to agree that 125,000 kilowatts is probably

as good a figure as we can select at the present time.

If we get three large turbines such as 80,000 kilowatts, then we would raise our reserve requirement to 160,000. So that the water power situation enters heavily into these factors and permits us to take two of these big turbines out for overhaul, always during the spring high water period, and that makes it possible to overhaul the smaller units in the

valley of the fall load, which always occurs in our case after the hot weather.

I want to make clear that where I said that the figure of capacity had been depreciated to 630,000, that refers to our difference between the name-plate rating and the dependable rating.

Q. Now how much of this reserve figure of 125,000 kw. is spinning reserve? A. Spinning reserve is usually taken to mean the amount of equipment in actual operation, over and
5897 above the load requirements. We require that the largest unit on the system be kept spinning at all times, or its equivalent, in our case 75,000 kilowatts. That alone is not sufficient to guarantee continuity of service, but we have got to go further and assure ourselves that we not only have that spinning reserve, but that it is available to all parts of the system, and that no bottle-neck or break may occur and prevent that being delivered to the point at which it is required. That is where our transmission interconnections come into

5898 play.

(At this point, a discussion was had outside of the record.)

The Witness: The matter of system governing is of great consequence to an electrical system, and becomes more important if interconnections with other companies are made. If a system is operating by itself, good speed regulation is also important, but when it comes to operate with any other system, it becomes imperative that perfect control be made avail-

able. We have a man in our organization who has been interested in governors for the last 15 or 20 years, and has become so proficient in his understanding of these devices that it has become more or less of a hobby with him, and when we were installing the Osage project, we developed some test equipment, and in working with the manufacturer, were able to show that his governors were not all they ought to be, and he recognized that fact and went to work on improvement of design. 5900

The steam-turbine manufacturers have always felt that the utility engineers were always demanding a refinement that was not justified, and that they, the manufacturers, were really building as good equipment as was required. That attitude we thought was unwarranted, and our views were concurred in by others, and a little at a time the attitude of the manufacturers toward governing has completely reversed itself over 12 or 15 years ago.

Permit me to explain that in the early days, out west for example, where we have the best case in point, 5901

the most efficient way to operate a hydro plant is to do what they call set it on the block, fix it to operate at the load for which it was designed, and let it stay there. Now, there is the most efficient way; you get the most out of that water wheel. But unfortunately, someone has got to govern the system somewhere. Whenever you govern a system you have to take the load fluctuations on that machine. Suppose that in

our case we had a 500,000-kilowatt system load, and that in order to govern that load and keep the load constant on all machines but one, we try to govern the whole system with one machine. That machine would take a constant variation from 30,000 to 50,000 kilowatts, just varying every second, and it would be too hard on the machine. That was attempted and very sensitive governors were put on one or two turbines, and failed because the variations in the load on those
5903 turbines were too rapid and too extensive, and they were removed, and the manufacturer said: "I told you so; you don't need these sensitive governors." Well, the trouble was that we did not have them on a big enough percentage of the whole system. If we could get sensitive governors on every wheel or turbine on a system, when the load goes off at noon, everybody quits, and the load drops for an hour suddenly,—if every turbine generator on the system were to vary in the same percentage, let's assume a 10 per cent. drop in system load or 50,000 kilowatts—if every machine
5904 on the system were to divide that drop in load in pro-

portion to its size, the size of the machine, a 5,000-kilowatt machine would only drop 500, a 7,500-kilowatt machine would only drop 750, and all the machines on the system would still be operating very close to their economical point. On the other hand, if you drop that sudden change in load on one or two machines, it would either overload the turbines so that they could not be operated, or they would go

down to such light loads that they are inefficient and may even get to the point where they cause trouble by over-heating. A large turbine will not run at no load, it will over-heat due to the way the steam operates, and may burn out blading.

Now then, the result of this is that Mr. Davis, the name of this gentleman, has prepared a number of papers, and one a rather comprehensive one, only last year. All of these things have taken place together. We have shown our problems, other companies have 5906
shown theirs. The manufacturers are now all in agreement in developing some very sensitive governors, and we are getting one of the very latest on these new turbines at Venice.

In fact, we have gone a step farther and are providing those turbines with dual governors, one of normal sensitivity and one a small head of super-sensitive design. The results of good governing have been checked on our system enough to show that there is actual economy in the use of fuel by not having the

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load constantly fluctuate away from the efficient point of the machine, and that money can really be saved by keeping the frequency where it should be.

Now I believe that I am very modest in saying that our company, through the efforts of this gentleman, has contributed a fair share in the development of this improved governor. We wrote specifications for governors three years ago, and were unable to obtain them; had to give it up. This year we went back with those same specifications in principle and

are successful in obtaining them. Not only could they be obtained from one manufacturer, but we could have obtained them from all three of the big turbine builders. That, in itself, will permit better operation on these large systems, and better service to the public with lesser cost.

Q. Now will you state whether it is the practice of the Union Electric Group to provide additional generating
5909 capacity in advance of actual need? A. Well, let us answer that question in this manner. We never spend money to get turbines to carry load because we are always carrying the load; we spend our money to obtain turbines to take the place of the reduction in reserve. Consequently, if we keep the reserve at least 125,000 kilowatts in advance of the load, we have to keep adding the turbines to keep up with the procession. The difficulty arises in the amount of time required to obtain the equipment and build a plant. I would like to illustrate that. In 1937 we had an unusual

5910 rapid rate of growth, load growth, during the year, up to the 13th of August, whereupon, not only on our system but throughout the country there was a sudden drop in load, and we lost about 100,000 kilowatts within the next three months, below that peak.

Now, just before that peak, if you had taken into account the rate of load growth, you would have anticipated that you should have purchased and installed within a reasonable length of time another 80,000-kilowatt unit. It takes a minimum, under normal conditions, of 18 months to get

one of these units and get it installed, and under the conditions, as they exist today, we are being told that if we want to get capacity in operation for the winter of 1942, or possibly the spring of 1943, that the order must be placed within a matter of the next two or three months at the latest.

Now then, you see my point, that we are unable to state definitely that the load will be here and that we will need the turbine, and yet we cannot afford to assume that it won't be required, and hence we have to place orders for this machine, firm orders, and pay for it, without any protection as to what the business conditions may be, and it requires considerable courage on the part of utility companies to make those huge investments. These units at Venice, this first section is estimated to cost $11,500,000. That is usually high because there are a lot of other things to be done, and that cost will get less later, unit cost, as the

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plant is expanded.

But nevertheless we have to make these investments and commitments two years ahead of what we know may be required, and yet that is demanded as a matter of protection to the public in the event that they need the power.

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The Examiner: Let us take a recess of five minutes.

(Whereupon, a short recess is taken, after which the hearing is resumed.)

The Examiner: The hearing will resume.

By Mr. Hamilton:

Q. I believe you stated the anticipated peak load for 1940. Will you state now the peak load actually experi-

enced for 1939 and 1940? A. The 1939 winter peak was 478,000 kilowatts on December 12th. This season's summer peak, July 9th, was 491,050 kilowatts.

By relating the winter peak to previous winter peaks, and by relating this summer peak of 491,000 to previous summer peaks, we conclude that the probable winter peak for this winter will be between 515,000 and 520,000. We state it as 515,000.

5915 Because I may some of the time refer to a load estimate with a winter peak for this winter estimated at 500,000 kilowatts, I want to again state clearly the distinction between the two figures which appear to be different and applies to the same thing.

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In the operation of our power plant equipment, and in the calculation of the reserve, this 125,000-kilowatt figure which we have been using, this reserve, is based on the assumption that no dump-power load or 60-cycle reserve load will be carried unless we want to. That is the basis of those contracts. Consequently, our winter peak for this
5916 winter includes both the excess for dump power and these other contracts. The possible rate of growth for the next two years is one of the most difficult things to predict that we have ever had.

In the years from 1911 on, for many years we were able to predict the load with a degree of accuracy, but right at this moment we have one inquiry for a 20,000-kilowatt possible single load; another inquiry for a Government application of 20,000 kilowatts; and actual increase already agreed upon in an aircraft plant but the amount of the load

is variously estimated as being from 5,000 to 10,000, or maybe twice that amount, kilowatts. In other words, the rate of change is rapid in this National Defense program, and no one knows just what is going to be done.

Consequently, we have to play a little more safer for the next two years than would ordinarily be the case, and whereas, as I have stated previously, we have a building construction program planned on a 10 per cent. per annum rate for the two years——

Q. (Interposing) That is rate of increase in load? A. 5918
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Yes, rate of increase per year. —Carried on for only two years, we know that that can not keep up for ever; but we really confidently expect that the actual load on that equipment will not exceed 8½ per cent. growth per year compounded each year over the preceding year.

Now what I mean is that because of the magnitude of single loads which may be conceivably dropped onto our system without warning, that we have got to have a little more latitude for the next couple of years than is ordinarily 5919
required. We simply cannot estimate load growth with accuracy.

Q. Now in order to get an idea of the relative contributions of each of these generating plants to your total group output, are you able to state for the year 1939 the gross generation in kilowatt hours of each of the generating stations you have referred to? A. Yes, I can state the gross generation of each of the stations.

Osage hydro-electric plant—235,850,700 k. w. h.—all these figures are in kilowatt hours; Keokuk—756,662,500; that

5920 *Stanley Stokes—By Respondents—Direct*

making a combined total for the hydro system of 992,513,200. The steam system: Ashley Street generated 14,003,025; Rivermines—nothing—(this is for the year ending 12-31-39, I believe that has been made clear)—Cahokia—1,553,376,000; Venice—39,331,000; Cupples—296,930. Total steam—1,587,006,955.

Q. Now, if you will, the net generation, giving the figure

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5921 not by plants but as an aggregate figure, if you can? A. The net generation represents the difference between the gross generation and the amount used by house turbines and house auxiliaries and other equipment in the plant. The net generation in total for the hydro was 979,643,130; steam net generation—1,488,752,501.

Q. Now will you relate the occurrence of the system peak load in 1939 to the demand imposed by that load on the individual stations? A. The distribution of the 1939 peak, which occurred at 5 p. m. on the 12th of December, was: Osage plant—45,000 kilowatts; Keokuk—86,000; Ashley Street—

5922 20,000; Rivermines—Zero; Cahokia—293,000; Venice—32,000; Cupples—zero.

The combined distribution was 131,000 on hydro and 345,000 on steam, making a combined total peak of 476,000.

I should have given you the combined total of net generation as just previously. That figure was 2,468,395,631 kilowatt hours.

I think that it is clear that these last figures on peak demand have been kilowatts, which is the rate at which the power is being taken.

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Q. Now are the steam cycles employed in the generating stations of the Union Electric Group consistent with the cost of fuel to that group? A. The answer to your question is "yes", but without a little further explanation that may

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not be entirely sufficient.

You will observe, from the figures just given on generation, that out of a total of 2,579,000,000 kilowatt hours, 992,000,000 were generated by hydro. Now this was not a 5924
particularly good hydro year, in fact it was just the opposite for the Osage plant. The drainage area for the Osage plant lies out in Kansas and west. The rainfall in that area was much below normal. So that the normal generation by hydro would have been about the figure given here for Keokuk or slightly above, but Osage should have produced 400,000,000 or over. The result is that if I were to correct those figures for what might be termed a more normal year, you would have had at least 1,000,000,0000 or something above that generated by hydro, and a billion and a half, possibly, generated by steam.

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Thus it can be seen that the load factor on our steam system, the hours use per year of the capacity, is much lower than would be the case in a city which is supplied solely from steam plants. In other words, you have to always keep that in mind on every one of our operations and our designs. For example, as I have stated earlier, the annual load factor on some of the Ashley Street equipment which is used for 25-cycle reserve for Keokuk, is extremely low, in some years below 5 per cent. Obviously, on equipment used for such purposes, the total annual cost is almost entirely fixed

charges on the investment, and the operating expenses are very slight, and the efficiency in operation is of little con-

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sequence.

What we want for that purpose is equipment which can be started quickly and which will operate reliably. Reliability, quick starting and low annual fixed charges are the ideal requirements for reserve equipment for hydro.

Now for a high load factor steam plant, maximum
5927 economy, with reasonable investment and reliability are the requirements. In other words, they are radically different.

Consequently, in diluting our total system kilowatt hours with the hydro production, we have a decided effect on the operation of the steam plants.

Stated another way, we could not afford to spend as much money for the most efficient steam cycles because they do cost more, as we could afford to spend if we were operating a straight steam system.

For example, Keokuk, which only once in 80 years of rain-
5928 fall record would have gone below about 65 or 70,000 kilowatts supplied constantly every hour of the day, every day of the year, right on our base load. If we didn't have that energy we could, in the place of it, purchase and operate the most efficient steam turbine of 60 or 70,000 kilowatt capacity which we could acquire, with one exception, that we have a reasonably priced coal readily available. If we were to have high price coal, such as occurs in New York and New England, roughly speaking 16 cents per million B. t. u., as

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compared with 11 to 12 cents in St. Louis, we could justify

further refinements. The result is that we have to consider the steam cycle as applied to St. Louis, taking into account our cost of coal and the application of our hydro plants, and determine the best cycle for use regardless of what somebody may do in some other location under different conditions. We have concluded that our best steam cycle for the new Venice plant is 850-pound-900-degree equipment, but we recognize that if we were to suddenly put in twice as much equipment at Venice immediately as we are contemplating, we could not give the next two units that high load factor, 5930 and it would not be economical to do so.

Does that answer your question?

What I want to make clear on my own account here is that I am not criticizing nor advocating any particular steam pressure or temperature, for conditions that justify 1,250 pounds, 925 degree units, that is all right. Mr. Ford put in such a plant. He runs it at the maximum capacity 24 hours a day. One of our own system companies has such a plant. Their coal is much more costly than ours.

In our case we have calculated all of the different pressures and temperatures, and have selected the one which, 5931 in our opinion and with the advice of our associated engineers in our system of companies, will work out the best for us.

Q. In terms of economical operation? A. In terms of

annual overall minimum costs, including all costs.

Q. Will you state what factors have entered into the selection of the generating station sites which you now have in use? A. The selection of a site for a generating station

is a very important engineering and economic decision. Much has been written about putting steam plants at the mouth of coal mines. It is actually a fact that at Pittsburgh, at the junction of the two rivers in the city, they have some plants which are located on adequate water supply and which are very close to the coal mines. But in most cases the mouth-of-mine plant has been the dream of authors who had very little to do with the power business. There are very few mines in the world that are located where adequate
5933 condenser water would be available to run a plant of any size whatever.

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The offsetting factor, even in those applications where you do have both the coal mine and the load and the water all at the same place, there, in order to protect youreself, you usually have to acquire a control or actual ownership of such a large acreage of coal land, looking to the future, that your fixed charges in the early years are frequently discouraging, and even then you may not have guaranteed yourself a supply any better than the person who simply is in position to con-
5934 tract with any coal district in the country that is in position to furnish the required amount.

In the St. Louis district, we have a choice of two coals, one located near the city with a relatively low heat content, and a rather low cost. To be exact, the heat content runs around 10,000, or a little over, B. t. u. per pound, and the cost delivered to the plant would be in the general range of 9.3 to 9.5 cents per million B. t. u.

Or, we can burn a higher grade of coal, which comes from Franklin County, Illinois, lying to the southeast, a distance of roughly 100 miles, and that coal has a much higher B. t. u.

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content, something under 11,000, a lower sulphur content and in every respect better suited for power plant operation. We prefer to burn the better grade coal, and have not been able, so far, to completely successfully burn the low-grade coal without reducing the ratings of our boilers. If we reduce the ratings and get less out of them, then we have to have more

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boilers and that increases the investment charges. So when the thing is carefully analyzed over a period of years, so far our conclusions are that the burning of the better fuel is preferable. That means, then, that we must have railroad facilities from our proposed plant site to these Franklin County or Southern Illinois fields, but under no condition would we want to locate the plant so that the low-grade coal might not be conveniently available. The reason for that is that these coal rates and freight rates and arbitrary charges are being changed year by year At the present time you have what is known as the Guffey Bill, which fixes the price at the mine.

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Suppose they were to change that next year, we might have to change and use a low-grade coal. So, looking many years in advance, we must protect ourselves with good transportation facilities between the coal field that we are using, and those we may have to use, and the plant. We must also observe switching charges, because, under certain locations which are otherwise very favorable, the local conditions might add from one to two dollars per car for switching charges.

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Now we next have to look at the water supply, and that is convenient in the St. Louis district anywhere up and down

the Mississippi River, but foundation conditions and available land are not so convenient. The thing has become so well occupied and so much demand for river front sites right close to the city has gone up, and so much question as to

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what constitutes the river and where the boundary of it is, that there was an act of Congress passed to fix what are known as harbor lines, and those lines have been designated, and you can build up to a certain line called the harbor line.

5939 Now then, at Cahokia, the site finally picked after considering all of these factors, was selected containing 56 acres, and even back 16 or so years ago, we had to pay, I believe, better than $5,000 an acre for those 56 acres, and a good part of them had to be filled and brought out to the harbor line.

Today we have this site at Venice, which will accommodate a 400,000 kilowatt plant, but I wouldn't know exactly where to get another close, convenient site. Our next move would force us to go north up the river, and increase our transmission or distribution costs to get a favorable site.

5940 We have this disadvantage that foundation conditions on the river are very severe, and in addition to that we have to design a plant to take a variation of at least 36 foot in head of water. The river may, at extreme low water conditions, be here (indicating), and at extremely high water, may be possibly 36 feet higher. You can compare that with a lake plant where there is practically no variation in head.

But we have the added advantage that we are right at our load and the cables coming directly from the plant to our various city sub-stations without any intervening transmission investment, or liability.

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I could go a little further and describe the hydro plant location, but after all, that is pretty well understood by everyone, that you have to locate a hydro plant where a dam can be constructed on a river, and where overflow facilities can be had.

For example, in the case of the Osage project, we had to move one or two towns, and a railroad, and something over 2,000 cemeteries, and I don't know just what else—a great many things—to get the basin, where the storage was going to be, cleared. 5942 There are very few places in the Middle West where you can afford to overflow land these days, that is, the investment is so high that it would render the project relatively unattractive if you had to do too much of that.

We were contemplating raising the head of the Osage project another 5 or 10 feet, and we found that to do so would flood out one major railroad, and would tremendously increase the investment, with more than the gain to be obtained. We did raise the height 5 feet above the original contemplated figure, and found that that was advantageous.

Q. Isn't there a rather heavy load on the Illinois side of the Mississippi River, as well as in St. Louis? 5943 A. At the present time the load flowing out of the Cahokia plant itself is about equally divided at times of peak, about half to the Missouri side and half to the Illinois. The difference

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in the characteristics of the load are rather noticeable; the Illinois load has its peak at a slightly different time than the Missouri, city load, and the Illinois service is supplied over a smaller number of high voltage circuits, whereas the city load is supplied over a large number of submarine

cables at 33,000 volts, going direct to our distribution sub-stations, which we will describe later.

Q. And the central location of these stations results in savings in transmission costs, and in reduction of transmission losses, isn't that correct? A. Yes. People rarely realize the actual cost of electrical connections. I have always had a good deal of amusement out of a little selection we made at one time, on a relatively small scale. We bought a lot down in the city, and decided to locate the
5945 downtown sub-station on the back end of the lot, and rent the front of the lot for business purposes. It sounds logical.

We did that, but after several years' experience, I made a calculation and it showed that the fixed charges on the cable connections to run that 60 feet from the back of the lot to the front, were at least equal or greater than the rent obtained from the front facilities. In other words, all our worry about getting the store in front was really offset by just a few feet of very heavy cable connections.

I use that to illustrate the point that every foot you

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5946 move a power plant away from the city runs into money.

I had occasion to make a calculation recently in which there were four 66 kv. cables required to carry the load. Those cost, roughly, including conduits, about $15 a foot each, or $60 a foot for the four. If you multiply that in round figures by 5,000, you would have $300,000 a mile, so if you were to move your plant away from the load one mile, and had to supply it with these four cables, it would cost you about that amount of money, and if you did it at a lower voltage, it would cost you more than that. So that

that brings out the advantage of a site immediately adjacent to the large load.

Q. Are the same favorable conditions applicable to the location of the Ashley Street plant? A. Ashley Street plant itself is located almost out in the river, and we have been repeatedly told by the War Department, who have control of the channel in the river, that we ought to enjoy that plant because we will never again get a chance to put one out there like that. In other words, it is of great advantage to us, although not much to the liking of the War Department 5948
engineers whose job it is to maintain a straight channel up and down the river. And the old Ashley Street plant, and several other concerns at that location, were permitted in the early days to establish themselves farther out in the river that they will let you do now. That is decidedly ad-

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vantageous to us from the standpoint of condensing water. Cahokia is pretty well located, but it had to be put back farther on the shore than the Ashley Street. Ashley Street station is within a very short distance of the major down-town load. 5949

When I come to a little description of the downtown distribution system, I would like to digress there a little and describe the density of our load, and its small area, but high density as compared with New York City, for example. And Ashley Street is located very close to that dense section.

Ashley Street, also, supplying our steam-heating requirements, would have to have some such location. You can transmit electricity over a considerable distance, but you cannot transmit steam an unlimited distance, and if Ashley

Street were not located the way it is, we probably would have to have a duplicated steam-heating station, and a separate power generating station. By that I mean, the particular location there permits a joint operation which would not be practical otherwise.

I would like to make one other statement here. We need Ashley Street for electrical reserve, we must have it for steam heating, and the two work in well together. But, if we weren't permitted to have a location down there near
5951 the city, we would have to have a separate steam-heating plant which, if located out west farther and closer to the center of load, would have to buy city water, which is ex-

pensive, and we would have to make a corresponding addition to some other electric plant. So that we are constantly confronted with the value to our system of the Ashley Street station, and if it ever wears out, we will have to try to replace it again in the same site, if we are permitted to do so, and I think we will be able to do so.

But in order to protect our interest, and to be sure that
5952 the Ashley Street station is in no way a disadvantage to the community, we have cooperated with the local group there recently in a smoke elimination campaign, and are just completing a Cottrell plant, which is an electrical precipitation device, and that is going to be tested within the next fifteen days. My own little engineering group made the layout for the equipment, and it is the only known way so far of completely eliminating the finer particles of smoke.

Q. Now are switching and step-up transformer stations provided at each plant site? A. They are. St. Louis is one

of the few places which concentrates to a large extent on operating with what we call individual transformers and lines.

For example, out of Cahokia we go out from the main bus at 13,800 volts, put an individual 12,000 kw. transformer on a single 33,000 volt cable, go an average distance of approximately 5 miles, step down through another 33,000 volt trans-

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former, to a 4,000 volt sub-station, at which point we have an oil switch on the 4,000 volt side. 5954

The result is that the transformer, the cable and the second transformer are all treated as units. We don't do any high voltage switching, and that circuit then is duplicated form some other bus section in the plant, to this sub-station.

The result is that we have a simplicity of arrangement and a safety in operation and convenience that is hardly possible by other methods, and we feel that the added investment in the transformers is to a large extent offset by the saving in oil switches, and that the net result is more reliable.

Now in addition to the transformer step-up and switching station which goes with each power plant, we have some bulk 5955 power step-up stations at Cahokia, and the other plants, where we do have the other method used, namely, high voltage outdoor oil switches and conventional design of steel structure.

Now the figures which I gave you for plant investment do not include any of the equipment which I am now describing.

At Osage, the plant is operated at generator voltage, 13,800 volts, and stepped up immediately to 138,000, with

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no high tension breakers at either end of the line; in other words, we follow the same principle at 138,000 volts that we do at the lower voltage. That line comes on into Page Avenue and steps down, and switching is done at 13,000 volts on each end, no high voltage switching.

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I should go a little further and describe the fact that we have provided a double bus at Keokuk, and by a double
5957 bus I mean just about twice the investment for a single bus, that is, each typical feeder out of the plant can be supplied from either one of two buses, instead of from one only, which is very frequently done, and permits any bus to have the voltage removed for cleaning and repair work, and permits immediate transfer of a feeder, if anything should go wrong with a bus, and in every respect it is highly desirable except that it is a little expensive.

Our conclusion is that rather than attempt to reduce the cost of equipment itself, which means reduce the quality, that our best road to future economy is to concentrate on carry-
5958 ing more power per unit; in other words, if an oil switch costs roughly $35,000 installed, including its position, at Cahokia, or at the new Venice plant, which it does, the more kilowatts you take out through that switch, the less the unit cost per kilowatt, and we have decided to give continuous attention to keeping the ratings and actual use of the equipment as high as we can; in other words, keep it loaded to capacity, and thereby try to keep the investment within reason, because this equipment is consistently increasing in cost each year.

I always like to make the point that every time you spend $35,000 for an oil switch in position, you are spending real money to open the circuit and eliminate the revenue, cut the customer off, or something, at least they don't bring in any revenue and they are a necessity. But we have so far not been able to eliminate them, and offer any substitute. We are strongly interested in the new air-circuit-breaker equipment which is now being offered, and have purchased two sub-stations with the new type of equipment. We will watch with interest the tests which are going to be made this coming month for some breakers which have been ordered by the Consolidated Company—it happened they were the first ones to order them—and no one knows just how they will perform, but they are a new development in air circuit breakers to take the place of oil circuit breakers. Those that we have purchased have worked very well indeed, but they were at smaller ratings.

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Q. Now will you describe the design of the switch-house at the Cahokia plant? A. The Cahokia switch-house has been changed in design somewhat from its original inception. Originally, it was a straight, double-bus arrangement, with what are known as selector oil switches, so that any turbine or any feeder can be put on either bus by the operation of oil switches under the control of the operator at the board. 5961

We wanted to purchase a 75,000 kilowatt, two-winding machine; having already purchased one a few years ago, and having gotten good results from it, we wanted to use another one, and it was difficult to locate that two-winding machine suitable in that particular bus arrangement.

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5962 So we, by making very slight physical changes, changed it into a ring bus, in which each of the two double buses furnish the two sides of the ring, and the ends were closed through these double-winding 75,000 kilowatt machines. That made a very satisfactory arrangement. The individual machines in between those two, which covered the two ends of the plant, are single-winding machines. The result is that we have eliminated, by that means, an inherent difficulty which can arise in the operation of large, two-winding ma-

5963 chines, if they are located adjacent to each other down a bus.

I should explain here that a two-winding machine is simply a large generator in which there are two independent, parallel windings, each of half capacity, instead of one customary winding of full capacity, the reason being that the short-circuit problem involved with those large machines in a single-winding, is very severe; and at the time we bought the first one, switches were not available to handle it, and even today we wouldn't want to pay the price if they could be had.

5964 So the two-winding machine is a means of keeping down the short-circuits, and also provides a means of obtaining a little over half the capacity of the machine, even though a part of the other winding might be in difficulty.

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Now it would be presently characterized as a ring bus design of 12 sections, terminated at each end of the plant or made continuous through these two-winding machines. That type of bus is very satisfactory up to a certain limit. We think that Cahokia station has now reached that limit, and we do not advocate that particular design if we wanted to

push it above two such machines, that is, above the 300,000 limit. The new Venice plant is being designed so that it can go to 400,000.

Keep in mind that I am not advocating a 400,000 kilowatt plant just because we like a big one, and we may never build it to that extent, but there are conditions there with regard to the river, sites and other factors, which may make it desirable.

The result is that we do not want to do anything today in the electrical design which will preclude such possibility. 5966

With that in mind, we have designed a different type of bus, known as a synchronizing bus, a transfer bus, and a third bus which carries the generator and the feeders. This is not a new idea, but in the application of it we are adopting some rather new arrangements. This is not a cheap arrangement, it is probably a little more expensive than the Cahokia scheme, but it does provide for independent control of what we call our kilowatt load as distinct from the control of the reactive or kilovar load. One of those is the part of the power

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that is used for magnetizing the fields of all of the equipment, 5967 such as motors, and so on, and which is generally spoken of by electrical engineers as being at right angles to the main power. I will explain that a little more in detail to this extent, that at unity power factor you can put considerable load through what is known as a reactor, a choke coil, which is inserted in the bus or system to keep the short-circuits within bounds. You can put considerable load through that choke coil at unity power factor with very little voltage drop.

If, however, you attempt to put low power factor load through that choke coil, you get an excessive voltage drop.

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Consequently, in operating a large system where we have to shift the reactive power around a system to control voltage, and have to deal with it in every respect as carefully as we do our kilowatt power, we must have provision for full voltage control, and by connecting our tie-lines to this synchronizing bus, we can transfer, we will say, a 60 per cent. power factor load, of 50,000 kilowatts, into the plant, let the kilowatt component flow through the synchronizing bus, and the reactive component go to the transfer bus or
5969 the turbine itself, and each turbine then can give us voltage control and thereby get satisfactory operation from the plant, and not have a lot of limitations which cause a plant to operate at less efficiency, from the standpoint of investment, than it should.

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Many plants are built, and look to be all right, but you never can do everything with them at one time that you should be able to. This is an attempt on the part of the electrical design to see to it that no limitations will exist from day to day that will reduce the effectiveness of that
5970 investment. It is a joint endeavor on our part and that of the Stone & Webster Engineer Corporation. Both of the engineers, myself and their engineer, have worked quite a while on this thing, and we have great hopes for its success; in fact, we know it will be all right.

That is about all, I believe, that I would care to say on the Cahokia switch-house.

I would like to point out that in these modern big systems, that it does cost a lot of money to connect a feeder to a big, high-powered plant. We use, for round figures,

$75,000 as the cost of taking a feeder out of Cahokia, and that means that you have got to take some load out on that feeder or you are going to have a lot of investment tied up.

So we are gradually stepping up our sights as to the amount of load that we can take out on any one feeder, and our ultimate goal would be a plant where every feeder took 50,000 kilowatts out of the main plant, and then we would break those out up some other point into some lower voltage delivery.

Q. Now is pulverized fuel in use in your steam plants? 5972

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A. Yes, it is in use in all of our major plants, both Ashley Street and Cahokia, and will be used in all future plants. It is very successful. We have two systems in operation at present, one known as the storage system, in which the coal is pulverized and delivered into a bin, and from there delivered to the boilers; the other system is known as the unit pulverizer, which provides a separate grinding device and delivery to each boiler. We ourselves prefer the latter, and our new plant is being so equipped.

Q. How about the existing plants at Venice and River- 5973 mines? A. They are stoker plants with the exception of the new boilers at Venice, and they are pulverized fuel boilers. The old ones are stoker. I think it is a safe guess to say that 95 per cent. of our power output in kilowatt hours here, from steam production, is probably made from the pulverized fuel. The pulverized fuel operation is becoming so perfect and so satisfactory that in our new plant we are considering a design in which there is no partition wall between the boiler room and the turbine room, just columns. That seems

like rather an unusual arrangement, but there seems to be no reason for not having it.

Q. Is auxiliary equipment duplicated in the design of the new station? A. Well, it is duplicated, and even a little more than that in our present Cahokia station, but in the new sta-

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tion we are making provision to try to take care of those things which have happened and influence the reliability of power supply.

5975 As these boilers get larger and larger, and the pressure higher, it is more important that the boiler feed pumps not stop. It is a matter of seconds in some types of design from the time they stop until the boiler goes up, and in our case it might be a matter of minutes.

So we are providing five boiler feed pumps for two boilers. That is, each boiler has a pair, and then there is a spare for the group, and those boiler feed pumps are a mixture of electric and steam, which is advantageous for heat balance control.

The new plant at Venice will have a big concrete intake

5976 caisson down to bed rock in the river, and that caisson will be divided into two halves, and each half will be divided into two pumps. It sounds like the "House that Jack Built". The individual pumps can carry the first two sections of the station, that is, in other words, we have to first guard against any trouble with screens or water supply which might throw one-half of that caisson out of commission. We certainly have got to be sure that the other half will carry the plant.

Then, if the other half is carrying the plant, and if such a condition as that should occur, that half of the caisson

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could readily be out of service for some time, because if something were to break or fail, or the traveling screens were to get jammed, or some work required under water, we might have to shut down one-half of that caisson to get a diver down there to do the work.

With that in mind, the pumps in the other half should be able to take care of the plant, and it is so designed. At the present time, all of those pumps are not being installed because the capacity of the plant is not up to the full rating, but the same ratio is being maintained. That is about the 5978
most extensive triplication we have done, but it is most vital to the plant. That supplies the condenser water to all the turbines.

Q. Now, why are these duplicate facilities provided? A. Well, the idea is to maintain continuous service, and everything that you can do with that in mind, without wasting money, is in the direction of the best operation.

Frequently we make this kind of a calculation—assuming that we are in business to supply the best possible service, and still knowing that 100 per cent. service, if there were such a measure, can never be supplied, or if it could it 5979
would be at such fabulous prices that nobody could afford to buy it, the question that has to be finally worked out is—what grade of service can be supplied from a plant or a utility to the public, which is most feasible and most

desirable by both? It wouldn't be 100 per cent., and it certainly wouldn't be 70 per cent. It might be 85, and it might be something up in that range, but as you approach perfection, you increase costs out of all proportion to the gain

made, and if you finally insisted on having a system on which there could never be any interruption, there couldn't anybody afford to buy the power.

Now with those things in mind, we tried to design equipment which is within reason as to cost, and which will deliver such highly reliable service that any attempts to improve it beyond that point would be regarded as wasteful.

Now that again is a function of how big the plant is, what happens if it is lost, and a great many factors. In a
5981 very small plant where we can lose the whole plant without affecting service, we wouldn't worry about it. But when you contemplate these major systems for metropolitan service, the cost of an interruption, or value of it, is so great that these things become justified which heretofore have not really been contemplated, and if they increase the cost of your whole development by possibly one or two per cent. over and above what might be considered regular, and if that 2 per cent. can be shown to be advantageous, both to yourself and to the public, we think that where it is about an even break, that it ought to be put in rather than saying that where it is
5982 about an even break that it ought to be omitted. If we

become very poor some day, we will have to change our views a little bit, but as long as we can really get the money and put these things in, we think that it is good business to do it.

Now that again is a matter of engineering judgment, because it isn't a thing that anybody can lay down exact rules and regulations to cover. We want to get good service, the best that can be had, but we must also keep in mind that perfect service would be unapproachable, and too expensive to use.

Those bases of reasoning have a very wide application and a bearing on the type of plants, and when somebody says to me, "Why does your plant cost a little more than my plant?", I say, "Well, we were very careful in putting it in, we didn't waste any money, our man-hours on the installation are reasonable, and the only reason is that there is more in the plant, more equipment there."

We could omit some of it, but we would have to put it in some other place in the system, or would have to have some other form of duplication, or would have to build some other 5984
kind of a plant to make up for it if this were out, and on the whole I think the duplication of auxiliaries in a main steam plant is absolutely justified.

The Examiner: We will recess until 2 o'clock.

(Whereupon, at 12.30 o'clock p. m., a recess was taken until 2 o'clock p. m., of the same day.)

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AFTERNOON SESSION

2:10 p. m.

The Examiner: Let us resume.

Whereupon, STANLEY STOKES, the witness on the stand at the time of recess, resumed the stand, was examined and testified as follows:

5987 *Direct Examination by Mr. Hamilton (Continued):*

Q. Mr. Stokes, this morning you referred briefly to the steps the Union Electric group has taken in the direction of reducing fly ash pollution. Will you explain those steps in more detail and, also, state the significance the problem represents? A. First, if I may, I would like to describe a situation with which St. Louis is confronted. The coal which is available for residential use at low prices is of high volatile content and does make smoke and ash. The poorer classes in the community can not afford to burn the higher-priced coal and even the next higher-priced grade of Southern
5988 Illinois coal is, also, a highly volatile coal and makes a lot of smoke. It is very difficult to fire it in hand-fired furnaces or stoves.

The smoke problem in St. Louis has become more pronounced in recent years and at periods of low wind velocity we have quite a considerable difficulty.

The civic groups have recently taken the matter up and

have succeeded in passing ordinances for certain smoke prevention rules and regulations and are insisting on stoker-

fired equipment in commercial establishments but, as a result of carefully made surveys, they find that the large percentage of the smoke is made by the small, independent user and that something like 37 per cent. of all of the coal-burning applications in the city proper are still the old fashioned stoves in the poorer districts.

It, thus, becomes somewhat of a social problem to take care of. You can not insist that people pay more for fuel than they can afford to. At the same time, the smoke that they make is detrimental to the interests of others, but dur- 5990
ing the period in which this effort is being made to eliminate smoke in so far as possible the utility who burns the greatest amount of fuel in the district is naturally involved. We do not make much smoke, as such, but we do burn lots of fuel and some of it goes off, out of the stacks, in the form of fine, light gray ash.

To cooperate with the civic movement we have recently agreed to provide the latest known form of equipment to eliminate smoke from our plants. The first application of this equipment is at our Ashley Street Station where new boilers are being installed and being equipped with what is 5991
known as Cotrell precipitators. These are electrical devices for collecting the particles of ash and carbon that form smoke.

This type of equipment comes in many forms, but the particular one we are putting in is known as a plate type precipitator and consists of a series of grounded plates, meaning

that these plates are connected to earth electrically, and in between the plates are suspended fine wires which are charged

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to a relatively high voltage direct current. The gases which leave the boiler pass by these wires and between the plates and the gas becomes what is known as ionized as a result of collision between the electrons that are being sent out from the highly charged wire and the gas molecule.

The gas molecule then becomes charged, itself, and is attracted to the grounded plates. Once the particle reaches the plates it loses its charge and there is no longer any attraction but it has a tendency to stick there unless some-
5993 thing dislodges it. The result is that the smoke comes in at the bottom of this thing and it is repelled by these wires and the particles stick on the plates.

At some convenient interval this material is removed or otherwise driven down into hoppers and carried off in conveyors and into a storage tank or a loading or sacking device where the stuff can be put in sacks.

At the present time there is not enough market for this material for us to justify sacking it and we will have to dispose of it. We are not permitted to pump it out on the river because it will float. These particles are so fine that they,
5994 themselves, are not readily wetted and you can't get them to sink, so that they would float down the river for some miles.

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That means that we would have to acquire a joint property and have some form of pit where we could pump this stuff in and let it settle.

Some day we hope to acquire enough demand for the material to make its sale at least enough to warrant its shipping. It is now used in small quantities in cement manu-

facture to make the cement harder or to waterproof cement.

The cost of this particular equipment for the two boilers at Ashley Street is in the order of $60,000 but we will later have to equip more boilers and that will increase the cost. At Cahokia, which is our large steam plant on the East side of the river, we are trying out the first section with an experimental installation. It is estimated that the precipitators for the complete plant may run in the order of $1,000,000, as the quantities of gas to be handled are very large and there is not room on the roof to install the equipment and there is 5996
some question about the weight of that much equipment being added on to the existing structure, so that we are actually building what is equivalent to a small new building alongside, carrying the gases out into it and down and back up into the stack and out.

This first section is under construction. My department is now laying out the details of the electrical part of the equipment. In order to obtain this high voltage direct current you use some form of rectifier. You start with alternating currents and transform it up to high voltage and either by vacuum tube or mechanical rectifier transform it 5997
into direct current.

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The quantity of ash that is collected in this manner is very considerable. Illinois coal runs from 14 to 15 per cent. ash and a certain percentage of that, which I can't state exactly, is carried up the stack in the form of smoke.

The community, I think, is well pleased with our cooperation. It isn't one of those things that we benefit from directly. It does cost us money and it doesn't contribute

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anything to producing power, but it is a benefit to the community.

Q. The program is a voluntary one, is it? A. It was offered voluntarily by the President of our Company without any attempt to protest the expense or any other strings tied to the proposal. The city has accepted our proposal and we have stated that we have to have some time in which to work out the Cahokia job and are engaged now on the first section.

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Q. To indicate the significance of the problem, can you state, if you know, how atmospheric pollution due to smoke in St. Louis compares with, let's say, Pittsburgh and some other city? A. Well, I don't particularly like to advertise my own town as a smoky city, but I believe the facts are that Pittsburgh, which originally had the honor, carried on quite a comprehensive smoke-elimination campaign and has improved the situation there tremendously.

Actual measurements are periodically made of the amount of solid matter deposited and some of the measurements

6000 —2,582—

made in the residential section in the poorer districts of St. Louis seem to indicate that the deposit there is really heavier. I want to point out again that it is not the large manufacturing concerns nor the utilities nor major industry that are at the bottom of the trouble. If they were they would simply order them to stop it and they would have the financial ability to do so. The problem is a social one and involves the inability of the people, who make the most of the smoke, to do much about it.

There is another economic problem involved. We are practically forced, as a matter of plain, ordinary economics, to buy the coal in the district which is reasonably adjacent to the community, so that those people have a means of livelihood. The full solution to the thing has not yet been obtained but industry and commercial establishments are really doing their part this coming winter.

Q. Now, is the new station at Venice similarly to be equipped with this type of equipment? A. The precipitators for that station are already purchased and will be installed 6002
as soon as the building is up.

Q. And are you able to approximate the total investment, the total outlay required to pursue this program on the part of the Union Electric group? A. Well, when I stated that the Cahokia Plant would cost, possibly, $1,000,000 that was a somewhat rough estimate because we do not

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know just how we are going to do it. I would say that if Ashley Street cost $60,000 and the new Venice Plant possibly $100,000, that the million dollar figure, including all 6003
of it, may be reasonably correct or it might be $1,100,000. It is in that order of magnitude.

Q. Now, turning, if you will, to the main transmission system of the Union Electric group, will you refer to Respondents' Exhibit Number 51 and state for us the principal lines constituting the main transmission system? A. We have, in presenting this exhibit previously, made brief reference to the main transmission lines which run from the Keokuk Plant to the St. Louis plants and also from the Osage Project to St. Louis. There are other lines shown

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on this exhibit between the Cahokia Station and the Venice Station and between the Cahokia Station and Ashley Street and between Venice and Page Avenue sub-station.

I should like to give some information as to the character of this construction and may bring in in this discussion some one or two other lines that were not considered of major importance and may not, all of them, be shown on that exhibit, but probably most of them will be.

6005 The system in St. Louis is made up of both overhead transmission lines at voltages of 33,000 volts, 66,000 volts, 110,000 volts and 132,000 or 138,000 volts. Those are used interchangeably and it really means that the sending voltage and the generating in the line is 138,000 volts and the re-

—2,584—

ceiving voltage is closer to 132,000.

I should like to use the abbreviation "kv." for kilovolts, meaning 132 kilovolts or 132,000 volts.

6006 We have described the various plants and made some reference to the interconnection of the line and the economies which occur thereby, and I may have to slightly repeat in some places here in order to completely describe this situation. I will try to avoid it so far as possible.

The main transmission system consists of the tie lines interconnecting the six main generating plants and comprises over 1,000 miles of 3-phase circuits including 628 circuit miles of 132 kv., 60-cycle, wood pole and steel tower lines—by "wood pole" I should explain that these are what is known as "H" frame construction, each tower consisting of two wood poles connected by a horizontal crossarm and carrying three wires in horizontal configuration—287 circuit

miles of 110 kv., 25-cycle tower lines; 15.8 circuit miles of 66 kv., 60-cycle underground cables; 9.6 circuit miles of 66 kv., 60-cycle steel tower lines; 10.9 circuit miles of 33 kv., 60-cycle underground cables; and 68.8 circuit miles of 13.2 kv., 25-cycle underground cables.

The Keokuk Station on the North, generating at 25 cycles, is connected with St. Louis by two 110 kv., 300,000 cm.—the abbreviation for circular mills—copper circuits, each 143 miles long, carried on double circuit steel towers and terminating at the Page Avenue sub-station where three 6008

20,000 kilowatt frequency converters interconnect the 25 and 60-cycle systems.

Q. And that line was placed in service in what year? A. 1912 to 1913. I believe it was completed the latter part of 1912. I have a reference to that. They really went in service in 1913 although it was being constructed all during the year 1912.

In addition to those frequency changes or converters there is, also, a group of connecting cables between this Page Avenue sub-station and the Ashley Street Plant which 6009 operates at 13,200 volts and is described more particularly in what we referred to later as the subtransmission system.

There is no specific definition of what constitutes a subtransmission system, but it means, in general, a larger quantity of lower voltage circuits than your main highest voltage lines.

The Ashley Street Plant, which has both 25 and 60-cycle generators, is connected, as stated, to Page Avenue by these 13,000 volt underground cables, eight of them, and the 60-

cycle portion of the Ashley Street Plant is connected with the Cahokia Plant through four 33,000 volt cables of large size. These cables are supplied by transformers at the Cahokia and Ashley Street ends.

The combined transmission capacity between Cahokia and Ashley is, roughly, 50,000 kilowatts, more or less. The reason these terms have to be somewhat approximate is that the varying temperatures make a difference in the rating and

—2,586—

6011 one has to take into account, if you are speaking of minimum capacities, that you have to speak in terms of summer conditions. At other times the capacity is considerably larger.

The Osage Plant is connected to Page Avenue by two 138 kv. 60-cycle, single circuit lines. Now, these two lines are on separate structures and are not sufficiently far apart so that any trouble on one circuit would not affect the other. They are almost entirely on private right-of-way with the exception of certain parallels about 7 miles long on which we are on the edge of a railroad right-of-way. That, of course, is private right-of-way in the sense that we have easements, but

6012 I referred in the other case to the fact that the eased right-of-way strip is in the order of 250 feet wide for the other circuit.

Q. These structures each carry 250,000 cm.—I beg your pardon. A. These lines are 336,400 cm., aluminum cable, steel reinforced, ordinarily abbreviated as A. C. S. R. The circuits are 135.5 miles long, each, and are carried on structures which have been designed as a result of considerable special research work at the time.

Certain improvements in the knowledge of the transmission art have occurred in recent years and to take full ad-

vantage of this information we went through some actual tests to determine the most economical way to obtain a maximum insulating value which includes the wood, itself, at the

—2,587—

most moderate cost. The circuits are designed for 50 per cent. overload over and above the minimum requirements of what is known as the National Safety Code.

The district in which we operate is considered to be what is known as the heavy-loading district, which means that we obtain certain specified sleet, ice and wind loads. 6014

The design of those so-called Osage-Page Avenue lines conforms to the very latest information available. Actual flashover tests were run on these structures with lightning generators and the voltage at which lightning could flash the circuit over was reproduced in the laboratory. Roughly speaking, as I recall it, it takes in the neighborhood of 6,000,000 volts to flash the circuit on a sudden impulse. That includes the insulating value of the long insulator strength plus at least 8 feet of wood, which is in the circuit, before it can get to the ground.

I might bring out how that is accomplished. The over- 6015 head ground wires, of which there are two, are carried on top of the poles, one on each pole, at a distance of some 6 or 8 feet above the arm, in addition to which the ground wires, themselves, are stretched tighter than the conductors and obtain additional clearance in the middle of the span so that in the middle of the span they are probably 15 feet above the conductors. The ground wire has to be connected to the earth and the ordinary procedure is to run it right down the pole. This eliminates the insulating value of the pole, itself.

—2,588—

6016 If you don't have some kind of a ground wire down the pole, the pole, itself, is likely to be shattered by lightning. The method we used was to connect the ground wire which goes from the overhead wire to ground at a distance of about 15 feet out on the ground wire, itself, using great precautions in the type of clamp being used and in the nature of the conductor carried to ground, this latter being a copper-weld steel wire and connected into a clamp in such a way that there could be no electrolytic action and the clamp connected
6017 to the overhead line with a hinge arrangement such that there should be no occasion for this wire to break due to the swinging of the overhead ground wire.

—2,589—

That wire is then connected to the pole at a distance of about ten feet below the cross arm and from there on down it continues down the pole. The result is that any way the lightning tries to go from the conductor, either across the arm and up to the overhead wire or across the arm and down to the ground, it has to pass the combined installation of about 12 to 14 insulators and eight feet of wood.

6018 That wood is ordinarily good when dry for about 100,000 volts per foot for short-time step wave front lightning. The values under those conditions are only slightly different.

I want to make it clear that the porcelain insulators in this type of application serve to hold the operating voltage entirely. We do not depend in any way on the wood insulation for this but the wood insulation is largely depended upon for lightning. The results of this design have largely been a most attractive operating record, practically no failures. No load has ever been lost in the eight years, I believe, which is

the length of time that project has been operating. No load has ever been lost due to the operation of the transmission circuits.

Q. Have you stated the type of structure on which these circuits are carried? A. I have stated the construction for the Page Avenue lines only. I am now going over to describe the southern route which, on the exhibit, is from Osage to St. Louis by way of Rivermines in St. Francis County.

—2,590—

Q. Before you get to that and while we are still on the 6020
Osage-Page Avenue line, have you stated the years in which those two circuits went into service? A. They were put in with the Osage plant. It ought to be 1931. That is correct. They were put in service in 1931, and the second one followed the first one after a short interval.

Q. The second circuit? A. The second circuit and actually it was not really designated as being in service until the following year, 1932. They were both under construction in the same general period.

(Discussion off the record.)

6021

By Mr. Hamilton:

Q. I think you might put that on the record. A. The Page Avenue wood structures are fully impregnated with a vacuum process and the crossarms which are about 31 or 32 feet long and made up of 2 x 12's bolted together back to back with large spacer blocks in between to form a rigid truss.

Those arms were treated at lower temperature and under special conditions to avoid damage to the timber. Tests

were made, both before and after treatment, to ascertain the result, it being generally understood by the trade that fir could not be impregnated without certain damage.

This work was done by ourselves in conjunction with Stone & Webster and with the advice of the Forest Products Laboratory, a Government research agency for timber products, located in Wisconsin. They issue bulletins as a result

of the Government's research on timber.

6023 We took advantage of all the information available in their literature, what Stone & Webster had been unable to accumulate and what we, ourselves, had found, and we are certain that we succeeded in doing this job without damaging the wood.

That merely means that we will get longer life out of the pole line. We do not see why we should not get at least 35 years, minimum, and it is possible that with certain repairs we may go much longer than that, because there has been no experienced data really available on properly treated timber by modern processes.

6024 This treatment is toxic and the modern viewpoint is that rot is primarily a result of the eating of wood by various animal-type matter and that if the wood is poisoned it should last many, many years.

Q. Once installed, are these poles treated from time to time? A. No, the vacuum process takes the treatment clear into the heart wood, and there would be no possibility of treating them externally to do any good. I may say that so far the only things that have bothered that line at all are woodpeckers, and they have become discouraged after a few hours' work.

6025

(Discussion off the record.)

The Witness: The structures for the Page Avenue lines consist of long leaf, southeastern yellow pine

—2,592—

with vacuum impregnation.

The crossarms have been mentioned, I believe, and are made of western fir.

By Mr. Hamilton:

6026

Q. You are referring now to the lines from Osage to Page Avenue? A. Yes, these are the same lines from Osage to Page Avenue.

The other circuits from Osage to Page Avenue are a little more original in their design. The circuits leading from Cahokia south, crossing the river at Crystal City, the Mississippi River, and from thence on to Rivermines, as shown on that exhibit, No. 51, are double circuit steel tower lines. It was felt that the extension from Rivermines on to Osage should continue this type of construction, but we desired to obtain, if possible, a higher level of insulation against lightning.

6027

After comparing various types of construction and costs, we decided to build a steel structure designed for two 3-phase, 250,000 circular mill copper conductors arranged in vertical configuration on two sides of the tower but with a very large offset on the middle wire, it being supported about 15 feet out from the tower which will be explained.

Above the tower we have two overhead ground wires located as nearly over the conductors as is possible in a

practical design. These arms were all made free to swing.

—2,593—

This idea of a swinging arm, itself, was not original with us, but was invented by the Bethlehem Steel Corporation, however, it had had no application in practice because there was no particular gain to be had from a long steel arm and the only reason for swinging arms with a hinge at the top would be to make the arm longer than ordinary.

6029 I will explain that by stating that if the lightning merely has to flash over the insulator string to get to steel and thence to ground, there is no object in making the arm any longer than that same distance. On the other hand, if that arm could be made of insulating material which could be effective against lightning, then every foot you put in there will increase your lightning flash over value from 75 to 100,000 volt. The result was we decided to adopt wooden insulation in these arms, make them of a series of wooden trusses and make the middle arm about 15 feet long and the top and bottom arms somewhat shorter.

6030 If this had been a rigid arm without the hinge at the tower, it would be economically impracticable to build a tower strong enough to withstand the breaking strength of three conductors at an average distance of 12 or 13 feet from the top.

Those conductors have a breaking strength of, I would assume, in the neighborhood of six to eight thousand pounds each, which would mean we would have to support a possible load of eighteen to twenty thousand pounds out at a distance of 12 to 15 feet, depending on whether you are

—2,594—

6031

talking about the middle wire or the top or bottom wire. Those are approximate figures.

(Discussion off the record.)

The Witness: These arms are subject to a possible fracture due to lightning. In other words, they can be split. As a result, the tension member, which holds the arm and keeps it from falling, is made of a duplicated design, either one of which will hold many thousands of pounds if the other one is broken.

6032

We have actually had one case in which the lightning struck this line, shattered one of the arms and did not even interrupt the service which was being carried on the line. That is, the distance over which the lightning had to flash was o great that it could not maintain ionization across the gap and the power arc did not follow on through. That is the only case of this kind with which I have ever had any experience, although I have heard since of one other case.

6033

That is to say, we had a lightning flash over but the power arc did not follow and nobody knew anything about it, except that we had an oscillograph connected at Rivermines which operated and gave us an alarm. When we went out and examined the tower, we found that the lightning had evidently flashed all three wires on one side of the tower and without the service being disturbed on that same circuit.

Had that service been interfered with, the other circuit would have carried it as intended. The record

6034 *Colloquy*

of that line is very attractive and I will go into that

—2,595—

on a later chapter on operation, but it has fully met our expectations.

The reason those arms do not swing around, normally, is that the hinge at the tower is not a vertical hinge but is at an angle, and in order for that arm to swing around it has to lift the combined weight of itself and the span on either side, which is very
6035 heavy, consequently the vertical load of the span wires and of the arm itself keep it in its position, although it is free to move a certain amount.

The service obtained from this line is equivalent to that so far obtained from the other circuits, no load having been lost by either one, although a double circuit tower line of any construction, whatsoever, is subject to some types of disturbance which might not get both structures in single circuit lines.

It has been our experience, however, that the only thing which bothers a tower of this type is a tornado
6036 and unless the single circuit lines are widely separated, it could conceivably get both of them, as well.

St. Louis is in a tornado district and there are records of quite a number. We have had experience with two disastrous ones. We made an analysis of the transmission line right-of-way leading to the southwest from St. Louis for some considerable distance, although it was never built, and one reason it was not built was because we found a record of 42

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tornadoes that had gone longitudinally along this

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route and, instead of taking the line out crosswise, they might have taken it out lengthwise and that was one of the discouraging features.

However, that proposed line was intended to connect to a dam which was contemplated on the White River and was never built.

6038

By Mr. Hamilton:

Q. Now, will you particularize about these lines somewhat more, and begin, if you will, with the section of line running from Cahokia to Crystal City, and will you state when that section was placed in service and give information comparable to that given for the other line? A. The section of the line from Cahokia to Crystal City was constructed earlier and I know the date, but I want to verify it, 1925. Now, that line was constructed for the specific purpose at the time of supplying what we would call our Jefferson County division, it being the county immediately adjacent to 6039
St. Louis County on the south, and primarily at the same time to supply the plant of the Pittsburgh Plate Glass Company, a very large industry which has one of the largest plants at that point.

The problem of crossing the Mississippi River with an overhead line was an undertaking of some magnitude and had many engineering difficulties. At that time a 138,000 volt cable was not practicable. Since then there have been some installations, but it would have been impossible at that

6040 time and we did not want to go into a cable circuit, anyhow, for other reasons.

—2,597—

The situation at this river crossing was that of a span of almost a mile, some 4,800 feet leading from a high bluff to a flat valley land on the other side, and with a requirement of high clearance over the river. Due to the ice and load conditions, it probably can be stated as having to support six wires and an overhead ground wire at a height on one
6041 side of the river of 300 feet approximately and be able to sustain a breaking load of 60,000 pounds per conductor, so it became quite a problem.

As a matter of fact, we spent $125,000 on the foundation before we got out of the ground for that one tower and the total crossing ran in the order of $180,000-some. We had many things to overcome and decide.

In those days the X-ray method of determining whether metal had any flaws in it was not available. That is a recent development in the last three or four years.

Q. What is the sag in that span? A. I cannot state that
6042 exactly, but I think we are required to maintain 90-some feet above the river and the maximum point is about 300, so it sags down very rapidly.

It is carried over the top of the suspension tower on the Illinois side of the river and balanced over that tower and carried on again into the next span until you get below the low point at which point it is anchored.

Each of these conductors is a very large cable and they are made up of what is known as bridge sockets on the end, just the same as the method by which a suspension bridge is

—2,598—

carried and requires hoisting with a hoist or single wire up to the tower and it took the combined efforts of two boats to drag this single wire across the river against the high wind that came up at the time.

We had the additional problem that this windstorm continued and we were unable to get a man up to the tower. No one could climb the tower against that wind, and we had to let the line lie in the river all night, although that was a fundamental rule for the job, that that conductor must never be allowed to rest in the sand. We could not help it. 6044

The next day we underran the conductor with a pulley and boat to go across and got it out without damage and were successful in getting it up on that tower.

Altogether it was a rather difficult project. We made every part in duplicate and broke one part in a testing machine and assumed that the other one was equal, because the stresses were right at the limit of the best material we could get.

At the time, I believe it was the longest span in the world and I believe it still is. I know it is longer than the St. Lawrence River span which failed, and also longer than the Carquines River span. It was straight and had one lock span on it. These are the three longest in America. I do not know anything about the European record. 6045

(Discussion off the record.)

—2,599—

Q. Now, Mr. Stokes, state if you will the length of line from Cahokia to Crystal City and its voltage? A. Cahokia to Crystal City is about 20-some odd miles. If you take it clear through to Crystal City it is 30.84, and that conductor in there is 300,000 cm., A. C. S. R.

Q. And how many circuits are there on that line? A. There are two circuits on this transmission line, and they continue from Crystal City on to Rivermines.

Q. Before we get on to that continuation, the voltage if you will of the line from Cahokia to Crystal City? A. 138,000 volts.

Q. And that line is of steel-tower construction? A. It is, a steel-tower line with the conductors, as stated, operating at 138,000 volts at the sending end. This is one continuous
6047 circuit as far as voltage is concerned, that is it runs right straight from Osage, by Rivermines at which point there is a switching station, on by Crystal City at which point it is tapped for local service and the glass company located there, on up to Cahokia. But the line itself was constructed at different intervals, and has a different grade of construction at each section.

Q. Now comparable information, if you will, for the portion of the line running from Crystal City to Rivermines? A. That line was constructed just shortly before the Osage project was put in. It was put in service in 1930. It is a
6048 —2,600—
little heavier steel-tower construction than the section between Cahokia and Crystal City, but otherwise, rather similar.

It has 4/0 copper conductor, 211,000 cm. This particular conductor used was seven strand. An ordinary conductor is usually 19 strand. This was a slight economy in this seven-strand conductor, and it was a little more rugged. The length of that circuit is 27.6 miles, and that brings us to Rivermines.

6049

Q. Now the voltage of that line is what? A. That is 138,000 volts. All of these circuits are connected to each other.

Q. And how many circuits are carried? A. Two.

Q. And the construction is again a steel tower, is it not? A. Yes, a little heavier, as I said, than the Crystal City line.

The distance from Rivermines to Osage I do not believe has been put in the record. It is 119½ miles, and it is the power line which was under extensive discussion here with the steel tower, swinging wood arm construction. The con- 6050
ductor there was rated 250,000 cm.

Q. And the voltage? A. 138 kv.

Q. And the number of circuits? A. A double circuit, steel tower line.

Now, I don't believe that I have quite completed what I

—2,601—

meant to bring out. There were one or two other circuits that I should have included in a little more detail.

I have particular reference to the transmission line between Cahokia and Venice. This is a very short line, only 6051
4.81 miles in length, operating at 66,000 volts, 60 cycles, and is a double circuit steel tower with 350,000 cm. copper conductors. It is a very heavy type line, and was constructed under rather difficult conditions. There were many obstacles. The average height of this line is about 170 feet to the bottom wire. That had to cross two or three bridges, go over some river structures, and then some of the tower foundations had to be designed for river current, under high water conditions. Its application is very important because it is the main tie line between the Cahokia and Venice plants.

6052 The insulation of that line is adequate for somewhat higher voltage, and the factor of safety is very good. The operation of that circuit has been very satisfactory.

Q. And that line was placed in service in what year? A. That was placed in service in 1927.

Q. Now, there appear on Exhibit No. 51 certain other transmission lines which I don't believe you have described in detail, one line is a line running from Venice to Alton. Will you give comparable information as to that? A. The
6053 Venice-Alton circuits extend northward from our Venice plant to a town known as Alton, Illinois, a distance of 16.56

miles and consists of a double circuit steel tower line operating at 66,000 volts. It was originally constructed with 3/0 A. C. S. R. conductors. The load grew so heavily, due to some large industrials in that district, as well as the normal growth, that we had contemplated building another circuit.

Calculations were made, and showed that the factor of
6054 safety in the line as designed was fully adequate for 4/0 copper conductors, whose diameter is practically the same as 3/0 A. C. S. R., and which did not change the wind loading on the line. The vertical weight of the 4/0 conductor was not of any consequence in the design, and the breaking strength was only slightly higher than the original conductor.

The result of all of these calculations was that we recently completed, within the last two months, changing the conductor on those circuits from aluminum of moderate size to the larger sized copper, and by that means were able to add 15 or 20,000 kilowatts of available transmission capacity in

that district at a cost much lower than the construction of a new circuit.

Furthermore, the available right-of-way in that district is practically limited to one more circuit, and it is important to us to get the most power we can out of the present two circuits before we use up that last available space. It is becoming very difficult to get a line in there.

Q. And the line is presently of what size? A. It is pres-

ently 4/0 copper, having recently been changed. 6056

I do not have to refer to notes particularly on these lines, because I had charge of the design and construction of the Cahokia-Crystal City line, the Venice-Alton line; I cooperated in the design of the Crystal City-Rivermines line, and controlled the design of the Rivermines-Osage lines, although the construction of those lines was done by the contract. So that part of the transmission system is one with which I am very familiar.

Q. Now that line to which you have just referred is a steel-tower construction line, is it not? A. It is.

Q. And it was installed in what year? A. The Venice-Alton line was installed in 1927. I gave the length and the year. We have two other circuits leading east from Cahokia, which terminate at a town known as Belleville, Illinois. Our ownership of those circuits extends to a town called Centerville. They carry a rather heavy load and consist of double-circuit steel-tower construction, very similar to the Alton line just described. They are operated at 66,000 volts. The length of the line included in our property account is only 4½ miles. They have two circuits of 4/0 A. C. S. R. 6057

6058 *Stanley Stokes—By Respondents—Direct*

Q. And the line to which you have just referred is shown on the map, is it, as running from Cahokia to a point designated on Exhibit 51 as "B-4"? A. That is correct. That

—2,604—

happens to be the limit of our certificate of convenience and necessity for distribution at that point, and it goes on into the territory of the adjacent company.

We have fairly completely described now, as a summary, the Osage-Page circuits, which were two separate single cir-
6059 cuit lines; the Osage-Rivermines, which was a double circuit, steel tower, swinging arm line; the Rivermines-Crystal City, which is a double circuit, steel tower line, and the Cahokia-Crystal City line which is also a double circuit steel tower line.

—2,605—

That takes us around the circuit of the Osage lines. We have also described the Venice-Alton lines, and the Cahokia-Centerville lines.

We also mentioned and described the short line between Cahokia and Venice, which was the heavy tie circuit between
6060 plants, a double-circuit, 66 kv. steel tower line.

A This leaves us with perhaps a little more detail to be added on the 25-cycle Keokuk circuits. Those have been mentioned several times, but the detail of construction has not been fully covered at any one place, although I believe it has been pretty fairly covered as a whole.

Q. All right, very briefly, if you will. A. I would like to summarize it, if I may, in order to get it into the record in one place.

The Keokuk-St. Louis line, placed in service in 1913, consists of a double-circuit, 110,000-volt, 25-cycle transmis-

sion line, approximately 143 miles long, with 300,000 cm. copper conductor, connecting Keokuk and St. Louis.

At a point called Meppen on this line, there is a sub-station, and the voltage is stepped down from 110,000 volts to 66,000 volts, and carried to Alton by means of the Alton-Meppen circuit. This was constructed in 1914, it is 28.7 miles in length, has one circuit, steel tower construction, and 2/0 copper conductor.

That circuit extends from Meppen, as shown on Exhibit 51, over to Alton, and thence on to the Lake Avenue sub- 6062

station in East St. Louis.

Q. The terminus, I take it, of the line from Alton to Meppen, is the point shown on Exhibit No. 51 by the symbol C-8? A. Yes. The other terminus of it, after it passes Alton and goes on to East St. Louis, is Lake Avenue, which is shown as a square representing a sub-station, and the letter "B" indicating ownership by the Union Electric Company of Illinois.

This Keokuk line was put in at the early date of 1913, 6063
and was at that time the highest voltage transmission line, I believe, anywhere in the Middle West. Central Colorado had a line of that voltage, and I believe there were some in the South. At any rate, the insulators and all of the various features of the line were rather new and experimental. We will describe later the fact that we cooperated to some extent in the design of those insulators, or our predecessor company did, and they were known as the Keokuk insulators. Over 50 per cent. of those are still in regular service today, and have proved very satisfactory after all of these years.

6064 *Stanley Stokes—By Respondents—Direct*

There is another interesting application on that line known as the Nicholson arc suppressor. This device, which I believe has been largely discontinued on 60-cycle circuits, has functioned very satisfactorily over many years on the

—2,607—

25-cycle system, and the service rendered by this Keokuk line has been remarkably good.

One reason for that is this, that the length of time in which the 25-cycle oscillation passes through zero of the
6065 current wave, and by that I mean if you alternate a current 25 times a second, you take a longer period in passing through the zero part of the wave than you do if you have an oscillation 60 times a second. And that difference is just enough that, with long lines, it is very frequent that if there is a flash-over due to lightning, that the arc goes out at the first zero part of the wave, and the service is not interrupted, and the only way we know that it existed is because we have certain recorders mounted along the line.

The question was raised repeatedly as to why that Keokuk line gave better service than some other circuits which we
6066 thought were better constructed, and the solution turned out to be that it was because it was operated at 25 cycles, it had certain peculiar characteristics. This Nicholson arc suppressor is a device on the roof of the power station at Keokuk, which, when a ground goes on the circuit, due to lightning or any other difficulty, it operates a contactor, shorts that particular wire to ground, and immediately blows a fuse. This fuse is something on the order of 10 or 12 feet long, and this structure on the roof is a circular device about 15 or 20 feet high and 10 feet in diameter, and has a series

—2,608—

of these big fuse tubes, arranged in a circle, and it rotates and a new one comes into position. The purpose of the thing is that on the application of a sudden ground, if you can suddenly short the line ahead of that ground, the arc will go out, and then you remove the ground through your fuse.

Well, sir, the operation of that device has been such that we have kept it in service all these years, and still intend to do so. It is not considered a modern device, but on that particular system it has demonstrated that it is very effective. 6068

The recording device to which I have referred was rather novel. We have overhead ground wires on that circuit, and the lightning usually strikes them, and we arranged an ammeter device connected in the lead that carries the overhead wire to ground, and it records any current flowing down that lead. With that, we can tell where the lightning stroke was, and if there is any trouble, the patrolman can tell immediately, by looking at these ammeter charts, what section to go to. It is such a long line that if you can save delay it is worth while. There is usually no interruption of service whatever due to the loss of one of the Keokuk circuits, and 6069 we have supplied all service with the loss of both of them.

We had a tornado some years ago and it took out about a half a mile of the Keokuk line, along with other buildings and threes, and the service was interrupted for a very short

duration, and we picked up the load at our end, and they picked up the Keokuk load at the other end, and the disturbance to the system load was minor, although the line was taken away entirely.

6070

That repair was made under flood conditions when the river was up 10 miles on one side out of its banks, and altogether it was quite a difficult repair job.

But the facilities available, which prevented that thing from being a real disaster, were all that saved the day. We have had other experiences with tornados.

Now the Page-Venice circuits, or Venice-Page circuits, either way (we usually refer to them as the Venice-Page circuits), consist of two 66,000-volt underground cables, carried
6071 as submarine cables from the Venice plant until we get across the river on the Missouri side, and thence through conduit to the Page Avenue sub-station.

Cables of this voltage, and particularly of large capacity, these being 750,000 cm., copper, represent a real cable problem. First, the static head that exists from the time you leave the power plant on the level of the ground behind the levee, until you get down to the bottom of the river, is some 40 or 50 feet, minimum, and that much pressure on a cable causes the oil to migrate. These cables have oil in them. It also puts some stresses on the lead sheet—all of which have
6072 to be carefully anticipated and taken care of by various means.

—2,610—

The pot-head problem at the terminal of this submarine cable is rather a severe engineering problem, although it has been solved all right. I wouldn't say we have had perfect service with those cables, because there have been mechanical damages. We don't know in all cases what did it, whether it was a bolt or what, but two of them have been mechanically damaged, and have had to be replaced. I should say those

are single-conductor cables. All of our other cable system is three-conductor cable, in which all three conductors are separately insulated and enclosed within an insulating layer, and placed within one lead sheet. These are single, and it takes six of them to make up the two circuits.

The land section has some problems in the manholes, where you have to make joints, to be sure that the oil reservoirs and all of the equipment that goes with it are properly done by the man who does the work, together with the fact that they must be at all times free from moisture. Hot oil 6074
has to be poured over these joints all the while they are made, so that no moisture from the atmosphere can get into them. Finally, we get to Page Avenue, where these cables terminate in two transformer banks, one for each circuit, 50,000 kilowatts each, and these banks are equipped with load ratio control equipment, which permits the voltage to be adjusted automatically, or at the discretion of the operator.

This adjustment of voltage at the two ends of these cable

systems, and again at Rivermines, Missouri, and again at Cahokia, and in our new plant at Venice, permits us to do 6075
what is equivalent to tilting the rating on these lines in either direction. If you could think of my having a little trough of water, if I wanted the water to flow that way, I would tilt it this way (indicating), and if I wanted to have it flow this way (indicating), I would tilt it that way (indicating).

Now in that case you can control the flow of kilowatts by the governors on your steam turbines, but the flow of the kilovars, or reactive energy, is determined by voltage conditions, and if you want to control that flow you must have

control of the voltage, and if you want to reverse the flow of power over a circuit of a magnitude of that character, with an ordinary circuit without load ratio control, there would be a voltage drop from the transmitting end to the receiving end. Then, if you start at the receiving end, the voltage taps now having been set lower here than they are here, (indicating), you might start out at Osage, for example, with 141,000 volts, and deliver at Page Avenue 132,000. Then you would start at Page Avenue and go back,
6077 you would start at 132 and wind up at Osage at something like 120.

Now that problem exists throughout any power system where power has to have a reversible flow, and in order to make the system work successfully, and not be limited to a lot of problems that you can't control, this load ratio

control equipment is used at a number of points.

Those Venice-Page circuits have given us very reliable service, and they are very important in our system, because they do connect our major steam plants with both of our
6078 hydro plants.

Q. Now the length of that line is what? A. That is about 7 miles. The exact length is 7.94 miles.

Q. And the year in which the line was placed in service? A. 1930 it was placed in service.

I think I have now described what I would consider to be the more important high voltage circuits. We have many other circuits which are of great importance, operating at lower voltages, and certain of those will be described under what I would call our sub-transmission system.

6079

Q. Now you have given us a number of figures on the size of the conductors, variously from 250,000 cm. on up to as high as 750,000 cm. Now, will you translate that in simple terms to indicate whether those conductors are of considerable size or whether they are small, or whatever nature they may be? A. We regard all of those circuits as being what are known as heavy-powered circuits, and can express the idea by saying that any of them can transmit, from 50,000 kilowatts up, at will. Even with these cable

—2,613—

6080

circuits which we rate at 50,000 kilowatts for continuous operation, we wouldn't hesitate to put 100,000 kilowatts on them for a few minutes.

For example, we actually operate the Venice-Page cables at 50,000 kilowatts per circuit whenever we want to. If one of those were to trip out, the other circuit picks up the full load, whatever it may be, whether it is 75,000 or 100,000, for the length of time required for the Osage plant to come in and take the load.

6081

So that the Osage-Page circuits are limited, not by the current-carrying capacity of the conductors—those conductors which were listed as 336,400 A. C. S. R. are equivalent to a 4/0 copper in carrying capacity, aluminum having about 60 per cent. of the conductivity of copper—but the limit on the Osage-Page circuits is what is known as a stability limit, and is a measure of the amount of synchronizing power or torque, if you like to look at it in that way, that you can transmit over a transmission line.

Those problems do not arise until you get some length in the circuit. To illustrate the thing as simply as I can,

6082 *Stanley Stokes—By Respondents—Direct*

if you regard a slender steel shaft as being twisted from each end, there will come a time at which it will break, and in the electric parlance, the breaking point is when the machine at the sending end pulls out of step with the generator at the receiving end. Previous to that, they are running in synchronism, each one keeping together with the other, and

—2,614—

you get a sudden short-circuit somewhere, and one machine may plough right ahead, and pull out of phase with the other
6083 one.

Before you reach that limit you will have to be sure that you either keep your load down or provide sufficient high-speed switching that you can clear the circuit quickly and rely on your others, the stability limits being a function of the speed with which you can clear the circuit after trouble starts.

The Examiner: Let us have a short recess.

(Whereupon, a short recess was taken, after which the hearing was resumed.)

6084 The Examiner: Let us proceed.

The Witness: Although we have completed the description of the Osage-Rivermines transmission circuits, I would like to mention that the type of structure being original, and the length of the line being considerable, and the importance of the job rather great, it became necessary for us to do a considerable amount of research work, involving laboratory testing, the design of clamps to hold wood, and calculations with regard to the probable loads on the wires, and

many other factors. So that, altogether, it represented quite a little development work.

By Mr. Hamilton:

Q. Is bulk power tapped off the main transmission line

—2,615—

at various points? A. Yes. If you refer to bulk power as meaning a sort of a wholesale point at which power is sold or delivered in a large quantity at one point, we do tap this Keokuk-St. Louis line at Hull sub-station, which is shown 6086
on Exhibit 51 at the point marked Hull, shown as a red square with a "C" alongside of it, and the terminus there is shown as "C-6". That is opposite the town of Hannibal, on the Missouri side. At this point there is a step-down sub-station and circuits are originated, one of which comes over across the Mississippi River to a point marked "C-5", —anyway, that is Ilasco, the end of that short extension, at which location there is a large cement mill. That circuit supplies that, and also supplies a neighboring utility at that point.

That was covered in the testimony previously given. 6087

The capacity of that station is largely required, however, for the Central Illinois Public Service Company, most of whose load lies 15 or 20 miles north at the town of Quincy, which is also shown on the map.

I would like to give some capacity figures for the size of that sub-station, if I may. I may not have it readily available, although I have it in some of my notes.

Q. I think we can get that later. A. I will get that a little later. I think it is approximately 34,000 kilowatts.

—2,616—

6088 *Stanley Stokes—By Respondents—Direct*

The line from Keokuk to St. Louis is also tapped at Meppen, and that was mentioned under our transmission discussion. I think the capacity of these various stations will be brought out better under the discussion of sub-stations than under the transmission system itself, although at our Page Avenue sub-station we have some very important transformer banks, and they were listed in total, and while some of them have been mentioned individually, I do not believe that we have summarized the groups as a whole.

6089 I would like to get those figures in, because I consider the Page Avenue sub-station to be a transmission station rather than an ordinary distribution station.

We have at that location: two 110/13.2 kv., 37,500 k. v. a., 25-cycle transformer banks. The terminology is the same for the rest of them.

Two 132/13.8, 56,250 k. v. a., 60-cycle transformer banks.

Two 66/13.8 kv., 56,250 k. v. a., 60-cycle transformer banks.

Three 33/13.8 kv., 13,333 k. v. a., 60-cycle transformers.

One 33/13.8 kv., 12,000 k. v. a., 60-cycle transformer.

6090 Three 33/13.8 kv., 10,000 k. v. a., 60-cycle transformers.

Three 13.8/4.5 kv., 7,500 k. v. a., 60-cycle transformers.

The point of interest there is that the Osage circuits, which come into Page Avenue, are stepped down from 132,000 volts as delivered to the 13.8 hundred volt bus, and then stepped up again to 66 kv. for delivery to the cables that go

—2,617—

to the Venice plant. The reason for that is this, that there is no common utilization voltage at Page Avenue, no one voltage that you could select that would do the job, because you have the various requirements.

6091

Consequently, we selected the bus voltage at the plant as being the most suitable for switching, just exactly like a power plant selects its bus voltage and transforms everything to that.

Various other methods were considered, and that was decided on as the best.

Now at the Cahokia plant, the transformer equipment in the yard adjacent to the building consists of two 132/66 kv., and two 66/13.8 kv. transformer banks, the first pair being 56,250 k. v. a., and the last pair 62,500 k. v. a. Those are 6092
large transformers. They connect Cahokia north onto the transmission circuits going to Venice, and south and west onto the transmission circuits going to Crystal City, Rivermines and Osage.

Q. Now is the transmission system so designed that bulk supply centers on the system may be fed from two directions? A. The general design of our system uses more duplicated circuits and less loop circuits than many companies. Loop circuits are usually cheaper in some ways, but at the time of trouble, the trouble is actually on the same circuit on which

—2,618— 6093

you are trying to deliver the load until you get it opened. That is, a loop circuit clears upon opening an oil switch at some place, and the remaining part of the loop carries the load. If those two circuits were not connected at all, one would not be involved in the trouble on the other. The performance is about identical if the switches work all right. If there is any failure on the switching equipment, the two separate circuits give a little better grade of service. We have no objection to either one, but all of these bulk or large,

6094 important centers are supplied with duplicate service, whether obtained by loop methods or by independent circuits.

Our system generates its own power, and we buy, I think, no power from other sources.

Q. Are the overhead transmission lines designed to withstand ice strain and high winds? A. Yes, we are located in what is classified as a heavy loading area, and we design our circuits to withstand the customary ice and wind loading conditions of what is known as a Class B loading system, one-
6095 half inch of ice and an 8-pound wind at the same time. Then, for our important circuits, we allow a 50 per cent. overload above those figures. There is a very weak spot in the specifications in the National Safety Code with respect to the design of steel tower transmission lines, and it has to do with the fact that there is little, if anything, said about the number of broken conductors for which you should design. —2,619—

Now the chief strain on a tower occurs at a time of a broken conductor. So that if we were to design a tower for Class B loading and no broken conductors, we would have a
6096 relatively light design. If, on the other hand, I were to design it for three broken conductors in one circuit, I would have about the heaviest design that could be used on a straight line or tangent tower. Our practice is to design an anchor tower or a dead end for all broken conductors on one side of the tower. By "one side", I mean looking in one direction down the line. That is the worst possible condition that you can put on a dead end tower. Also, designs for one broken conductor in one circuit of a tangent tower, and two broken conductors or the equivalent, for an angle tower. All

of these designs contemplate the use of a 50 per cent. overload factor of safety.

The Safety Code merely requires that you meet those conditions. In other words that you are about ready to fail.

I believe that general standard of construction is today adhered to by a good many of the large city companies. It is not usually adhered to by some of the smaller groups. I mean by that, that we design a high grade line, but I am willing to admit that other people do very much the same thing today. That statement should be limited now to what would be 6098
regarded as first class metropolitan cities.

Q. Now, are the lines also designed to minimize lightning troubles? A. Yes, I have treated with that to some extent

—2,620—

in connection with the design of the wood cross-arm Rivermines line which was actually tested in a lightning generator laboratory, full scale. The lightning outages have been negligible on those circuits, and from this description you will observe that we have a large number of circuit miles exposed and that the likelihood of trouble is proportionate to the number of miles of line, and that a long line, to give 6099
good service, has to be more carefully constructed than a short one.

The various means of designing a line to withstand lightning, all sum up in one way or another to obtain adequate clearance from your conductor to ground through the air, and by "ground" I mean either a grounded steel tower or a ground wire down a pole, or any other structure, combined with insulating materials which will more than withstand the voltage required to arc from the conducter to that ground.

6100 In other words, for example, if you had a three foot clearance to steel in the normal position of the wire, which used to be a very ordinary design, considered good, you first would have to have insulators of one kind or another, either a combination of wood and porcelain, or all porcelain, which would not flash over at that value, because you do not want the arc going over your insulator string. If you want to get a better performance than that, you want to increase that clearance and use more insulators. That is what we have
6101 done in all of our circuits. We either have a very large

—2,621—

clearance, and a combination of wood, or an equivalent large string of insulators.

That is not altogether true on our earlier lines, although they are duplicated and short, and give very good service.

The improvement in the method of building transmission lines dates from what is known as cathode-ray oscillograph, which provides information as to what the lightning stroke really does, and the improvement in the operation
6102 of these lines is to a large extent affected on our system by the use of the type of oscillograph which is built in the form of a little automatic device, and located at three or four of our strategic points. Those instruments are expensive, about three or four thousand dollars apiece.

Q. Is the main transmission system adequate for present loading and for presently anticipated loads? A. Yes, it has considerable leeway in the matter of capacity. We might illustrate that by the loadings that occur on the transformer banks themselves at times of peak loads.

6103

A transmission line is nothing but a piece of wire, and if the distance is moderately short, not over 50 miles or something like that, you could keep on running the load up on that until it gets hot, and it wouldn't really fail on you until you have passed the annealing limit of the copper, and that point would be a load clear above the economic or practical voltage drop and energy loss limits. Hence, no

—2,622—

transformer bank is ever installed for that high rating on the wire, and the limits of these transmission lines are the 6104
practical voltage drops in the line, and the limiting capacity is always determined by the transformers.

In this particular example which I would like to give, I can illustrate the system peak which occurred at December 12, 1939, and amounted to 476,000 kilowatts, and show how it was distributed on different banks of transformers, and determine what percentage of their capacity was being used.

The Page transformers, supplying the Page-Osage line, have a load of 41,000 kilowatts or 43,700 k. v. a., with an installed capacity of 112,500, and was operating at 38.8 per 6105
cent. of its capacity at the time of the peak. Similarly, the Page-Venice transformer at Page had a load of 12,100, 14,300 k. v. a., and a capacity of 112,500, and was carrying 12.7 per cent. of its rating.

The Page-Keokuk transformer at Page had a load of 9,000 kilowatts, a k. v. a. of 9,500, and an installed capacity of 75,000 and was running at 12.7 per cent. of its rating.

Now that is due to the winter load conditions in the hydro plant, that is not the season of the year in which that

transformer would be carrying the largest load. At some other time, it would be loaded more than 12.7 per cent.

Rivermines transformers have 24,000 kilowatts, with 31,000 k. v. a., and installed capacity of 60,000, and was running at 51.6 per cent. of capacity. —2,623—

Q. I don't think you need to detail the load on each particular transformer. Will you indicate the range? A. That illustrates the method used, and I will give the range by saying that the maximum load on any bank came on the
6107 Cahokia main sub-station transformer, which had a watt load of 110,000, a k. v. a. load of 110,000—that power factor by the way would be corrected to unity at the time—and had a capacity of 125,000, and was operating at 88 per cent. of its rating.

So the range there, the highest load was 88 per cent., down to a normal loading there of about 35 to 23 per cent., in that range. Those two extremely low loadings there were due to the fact that that is a hydro transmission circuit, and this particular date was during the light load period. I
6108 think I could generalize and say that we could readjust loads there and safely carry 50 per cent. or more load above that which we had at the time.

Q. Now would you state whether the addition of the new units at Venice have any effect on the adequacy of the transmission line, or whether they will have? A. Well, we will have to buy new transformers for the Venice plant, but the transmission lines will be adequate. We will have to provide some additional feeder circuits at 33,000 volts, but the main high voltage transmission circuits will still have ample capacity. —2,624—

Q. Will you state what you regard as being the contributions to the transmission art which have been made by the Union Electric Group in the development of its main transmission system? A. Well, a little at a time, throughout this testimony, I have mentioned some of the features which we have developed, among which was the swinging arm wood transmission line. I mentioned briefly the Mississippi River crossing which was an improvement in that particular type of work in many ways over anything that had been done.

The insulators for Keokuk, for the Keokuk lines, were 6110
a special development. We can't personally take any credit for that, because that occurred prior to the time that we really owned that property, but we now own it and those same insulators are still giving service. That work was done with our knowledge, because we were interested in the type of service we were going to get over that circuit even then, but we had a contract to receive the power from the Keokuk company. That was the Mississippi River Power Company which is now a subsidiary of the Union Electric Company of Missouri.

We have installed a very complete communications sys- 6111
tem, and it largely consists of carrier current telephony on these transmission lines, and some original work was done by us on it in the early development of that particular type of communication. The majority of that development work was carried on by the other parts of the North American System.

—2,625—

We built an experimental line which operated between St. Louis and St. Charles, Missouri, and transmitted information over this so-called carrier current back in the early days of its development. That was purely experimental, however,

and was not continued in service. Our present equipment is built by the regular suppliers of that type of equipment, but installed by ourselves, and due to our familiarity with the requirements of carrier current communication, the successful operation of the equipment has been much above average.

For example, we can talk successfully from Keokuk to Page Avenue, 143 miles, on from Page Avenue, on another circuit, having stepped down from the first one and coupled up to the second one, on to Osage—another 138 miles, and
6113 from there on to Rivermines, another 120 or 125 miles, and carry on a satisfactory conversation throughout that entire length. That is not essentially normally in regular operations, because most of the communication is between the various plants and the city load dispatcher, but as a matter of information we can talk the other way readily.

The developments of the St. Louis group are rather considerable in the cable part of the system, but the large amount of that work is done at the lower, 33,000 volts, and will be discussed under our general system of sub-transmission cables. —2,626—

6114 There is one other feature that has contributed a great deal to the successful operation of our circuits, and that was the extension of the use of the wood insulation in the poles and cross arms to that of guy insulators. It was found that a great deal of the trouble on transmission circuits, as well as distribution circuits, came about by reason of lightning flashing from one of the conductors to the guy that was holding the pole, and by inserting a long eight or ten foot wood strain insulator, we were able to improve the operation of those circuits.

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One feature of transmission design which has not in the past been practiced, but which we carried out carefully on the Osage circuits, was the exact measurement of ground resistance for each power before any ground wires or other connecting devices were applied, and if any tower or pole did not come up to a predetermined low value, additional ground rods or other precautions were taken to insure low ground resistance. It had not been appreciated in earlier years, the importance that low ground resistance on a transmission line really amounted to. What we found out was 6116 that with a heavy stroke of ligthning which conceivably can readily reach 100,000 amperes down a tower for a few millionths of a second, that that can cause the whole tower to rise up above ground potential. I will explain that with an example. Suppose we have what is very frequently a good value of 10 ohms ground resistance, in other words between the tower itself and ultimate earth potential, which may

be many feet in the ground, an equivalent value of 10 ohms exists.

6117

100,000 amperes, flowing down through 10 ohms would produce a million-volt drop, and that drop would cause the tower, the earth being at zero potential for example, would cause the tower to suddenly assume a potential 1,000,000 volts above ground for that fraction of a second.

Under those conditions, the conductors which have quite a bit of electrostatic capacity to ground would remain fixed relatively with respect to ground, and the tower would flash to the conductors—and that turned out to be the explanation of a large percentage of the double-circuit faults in which

6118

they really held the conductors at practically even potential because of their condenser effect to ground, and suddenly shot the tower up for just an instant and it went over to the conductors and that naturally would affect them both.

—2,628—

Well, all of those things represent just added information with respect to the art, and what we try to do is to apply them as quickly as we can do so to get results.

6119 The operation of all of those circuits I have mentioned, particularly the Osage-Page, and the Osage-Rivermines, have a record which is very good, indeed.

Q. Is this testing conducted in your own laboratory? A. No, that is conducted in a regular professional testing laboratory, where they have these machines for pulling wires, and so forth. We do not ourselves own that kind of a laboratory. There are three such laboratories, regular commercial laboratories, available in St. Louis for ordinary commercial testing. They were primarily installed for such things as buildings, and concrete design, and testing of things like that, but they
6120 are equally applicable to what we want to do. We could also make those tests in any one of the university laboratories which are available to us as well. We wouldn't have enough continuous testing to justify the investment in a major testing laboratory of that kind. The mechanical people who design buildings and things like that, really have more occasion for these laboratories, they are always testing concrete or something else. So they have found it feasible for several of these commercial firms to operate a laboratory for that purpose.

We do our own work in this testing, utilizing the facili-

—2,629—

ties of this commercial laboratory.

Q. I believe you spoke of a lightning generator in connection with a description of the testing. What is that? A. Well, that is a device to produce artificial lightning on a relatively large scale. Anyone who saw the General Electric exhibit at the World's Fair has really seen the largest one so far built.

It is a series of condensers or capacitors, which can be 6122
charged at moderate voltage from a vacuum tube generator, in parallel. Think of a lot of small units, in order to keep them from flashing over to ground later, and they spiral them up like a spiral stairway, and if you can think of an insulated spiral stairway with a great big block of capacity sitting on each step, and if you had means of charging those devices from a vacuum tube generator in parallel, and then by a trick circuit, discharge them in series,—voltages build up and add directly in series, currents add in parallel. For example, if you had a thousand of those condensers and each one was good for 10,000 volts, then you would have to have 6123
a 10,000-volt charging generator which could put current into all of them in parallel. Then when you discharge them through a gap, and a peculiar circuit which is too complicated to go into here, but rather ingenious, all these condensers discharge in series, and the voltage builds up the product of the number of condensers times their individual voltage. In the example I used, that would be 1,000 times 10,000, or

—2,630—

10,000,000 volts, which is about what that World's Fair generator is.

6124 This particular test we made was made in the Westinghouse laboratories, but there are two such generators available, and these smaller manufacturers now have smaller ones for lower voltage testing. They are very effective to determine what happens if lightning strikes a tower. They have gotten them up to pretty good capacity. They can take a stroke of lightning, maybe 15 or 20 feet long, from one of those generators, and strike a block of wood a foot square and 6 feet long, and shatter it into a hundred pieces, and it
6125 will fly all over the room, just with one stroke.

That sort of thing was of no value until the cathode ray oscillograph was available to measure the voltage actually obtained, and then out on a transmission system, various devices have been installed on the towers to get an idea of how much current flows down those towers, little magnetic elements that are either magnetized or demagnetized by lightning, and you get a relative idea from those as to what the currents were, going down the tower; and knowing the value of your ground impedance, or resistance, which you can measure, you determine to a certain extent the probable
6126 voltage of the lightning, and that, then, is duplicated in the lightning generator in the laboratory.

The interesting thing about our particular swinging-arm

—2,631—

towers on this test was that the calculated value of flashover, including a combination of insulators and a certain amount of wood, came out as we had predicted. We were rather surprised and pleased that it did, but the voltage drop across an insulator string, and across a piece of wood, do not add up directly.

If I had a 1,000-volt drop across an insulator, and a 1,000-volt drop across a wooden arm, my total would not be 2,000, and knowing something about that, we had made allowances for that, and the results of the test were about as expected, and the flash took place from the conductor across to a point on the arm about 5 feet from the tower, which is about where we predicted it should.

Q. So that in perfecting the transmission line design, you conduct laboratory experiments to simulate conditions to which the line itself will actually be exposed in operation? 6128
A. That is right.

Q. Do you actually construct your transmission lines yourself, and by "you", I mean the Union Electric Group? A. We do it both ways. We constructed the Alton lines ourselves, the Cahokia-Centerville lines, the Cahokia-Crystal City lines; and because of the Osage project, and having Stone & Webster engaged on it, these other lines were constructed by them, I mean the Osage circuits, although we carried out the design jointly with them. The actual construction was carried on by contract.

—2,632— 6129

Q. How about the crossing of the river at Crystal City? A. We did that work ourselves.

Mr. Hamilton: This represents a good breaking point, Mr. Examiner.

The Examiner: All right, we will recess until 10 o'clock tomorrow morning.

(Whereupon, at 4:30 o'clock p. m., a recess was taken until 10 o'clock a. m., Wednesday, October 23, 1940.) —2,633—

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Vol. VI

TRANSCRIPT OF RECORD

Supreme Court of the United States

OCTOBER TERM, ~~1942~~ 1943

No. ~~721~~ /

THE NORTH AMERICAN COMPANY, PETITIONER,

vs.

SECURITIES AND EXCHANGE COMMISSION

ON WRIT OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE SECOND CIRCUIT

PETITION FOR CERTIORARI FILED FEBRUARY 10, 1943.

CERTIORARI GRANTED MARCH 1, 1943.

United States Circuit Court of Appeals

FOR THE SECOND CIRCUIT

October Term, No. ——

THE NORTH AMERICAN COMPANY,
Petitioner,

v.

SECURITIES AND EXCHANGE COMMISSION,
Respondent.

TRANSCRIPT OF RECORD

TESTIMONY

Volume VI

(Pages 2044 to 2499)

On Petitions for Review of Orders of Securities and Exchange Commission

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6130

BEFORE THE

Securities and Exchange Commission

Docket No. 59-10

IN THE MATTER

of

THE NORTH AMERICAN COMPANY, *et al.*

6131

Hearing Room 622,
Securities and Exchange Commission Bldg.,
Washington, D. C.,
Wednesday, October 23, 1940.

Met, pursuant to adjournment, at 10 o'clock a.m.

6132

Before: W. W. SWIFT, *Trial Examiner.*

Appearances:

S. PEARCE BROWNING, JR., and CHARLES S. HAMILTON, JR., of Sullivan & Cromwell, 48 Wall Street, New York City, Attorneys for the Respondents.

RALPH C. BINFORD and ARTHUR J. BUSWELL, Attorneys for the Securities and Exchange Commission.

PROCEEDINGS.

The Examiner: The hearing will come to order.

Mr. Hamilton: Mr. Stokes, will you resume the stand?

Whereupon, STANLEY STOKES resumed the stand and testified further as follows:

Direct Examination by Mr. Hamilton (Continued): 6134

Q. Yesterday, Mr. Stokes, you described the main transmission system of the Union Electric Group. Will you now describe the sub-transmission system and begin, if you will, with a statement of what you regard as being your sub-transmission system? A. The sub-transmission system, as referred to in this discussion, consists of the lines which form the connecting link between the main transmission system and the main power plant, with the distribution sub-stations. Those sub-stations are step-down transformers stations in most cases, which step the voltage down from some voltage such as 13,800 or 33,000 volts, to a lower distribution voltage, such as 2,300/4,000, or in some cases 6,600, 6,900, and other similar voltages. That is, we have several such voltages in approximately the same range. 6135

The sub-transmission system of the Union Electric Company Group is a combination of overhead lines and underground cables. The system includes more than 1,200 circuit

—2,635—

miles of both overhead and underground transmission, divided into 543.8 miles of 33 kv. pole lines; 43 miles of 33 kv.

steel tower lines; 159.7 miles of 33 kv. submarine and underground cables; 170.4 miles of 13.8 kv. submarine and underground cables; 248.2 miles of 13.8 kv. pole lines; 6.8 miles of 13.8 kv. steel tower lines; 1.6 miles of 11 kv. steel tower lines; 34.2 miles of 11 kv. pole lines; 9.1 miles of 11 kv. underground cable; and 18.5 miles of 6.6 kv. underground cable. These mileages are in addition to those lines which have been previously described as main transmission system.

In general, the underground system, so-called, meaning
6137 the underground cable and the conduit work, is confined to the urban and the more densely populated areas, while the overhead circuits serve the surrounding, lesser populated districts.

In general, the City of St. Louis is largely supplied by underground cable except for its 4,000 volt ultimate distribution circuits, which are not under discussion here.

St. Louis County has both underground cable and overhead lines, I would say predominantly overhead. The other less populated districts have a larger percentage of overhead construction.

6138 The general basis of these circuits is to supply off them 60-cycle energy for practically all of the growth of the load. Certain areas which are already supplied by 25-cycle for in-

dustrial purposes or railway load, are continued that way.

Q. Now, if you will, describe that portion of the subtransmission system in and about the Keokuk plant? A. The Keokuk voltage at the plant is referred to as 11 kv. Most of our system is 13.2 or 13.8 kv. I would like to explain that in the use of these voltages that are very close to each other,

such as 13.2 or 13.8, or 66 kv. or 69kv., those are all used synonymously. Actually, the voltage varies on such a circuit, and at the transmitting end the voltage would be somewhat higher than at the receiving end. So when I speak of 13.8 kv. cables, I am talking about the power plant end. If I speak of 13.2, it merely means that we are talking about the receiving end. But in any case, they may be regarded as synonymous.

The Keokuk sub-transmission system takes the supply of power at 11,000 volts from the plant and distributes it in 6140
the vicinity of Keokuk, and by reason of transformation to 33,000 volts, it is also supplied to Fort Madison and other towns in the vicinity.

The two 11 kv. feeders supply 3,500 kw. of frequency changers of the Central Illinois Public Service Company. One 11 kv. feeder supplies a 2,450 kw. frequency changer of the Illinois-Iowa Power Company.

Four 11 kv. feeders go to Hamilton, Illinois, which is located immediately opposite the Keokuk plant on the Illinois side of the river, where two of these four feeders sup-

—2,637— 6141

ply the Illinois-Iowa Power Company; and the other two, the Iowa Union Electric Company.

Three 11 kv. feeders go to the Keokuk terminal for 11 kv. distribution to the Keokuk and Jackson Avenue substations, and numerous customer sub-stations.

The Keokuk terminal is just a name for a terminus, not far from the plant.

Two 11 kv. feeders supply large customers. Those are big industrial customers who are heavy users of electric power for electric furnace application.

6142 Two 33 kv. feeders go to Burlington, supplying nine sub-stations of varying capacities, which are operated by the Union Electric Group. The end of those feeders terminates at the Burlington sub-station of the Iowa Southern Utilities Company. I should explain that that reference includes the line which was discussed under main transmission system, but I have not included it in this mileage. The reason I have mentioned it here is that those various sub-stations which are tapped off of that circuit, were not included in the previous
6143 discussion. They are small stations to a large extent.

In addition to the above feeders, part of the sub-transmission system consists of the taps on the main 110 kv. transmission lines at Hull, and Meppen. Those points were discussed and located in the previous testimony, and in addition to their features as wholesale points, there is some

sub-transmission carried out to supply loads in the vicinity.

At Hull, seven sub-stations are supplied with energy over 33 kv. lines from that point, and in addition energy is sold
6144 to the Central Illinois Public Service Company for use in their own frequency changers located at Hull sub-station.

At the sub-station which taps the main line at Meppen, a 9,000 kilowatt step-down transformer, 110 to 66 kv. voltage, supplies a portion of the power going to the Central Illinois Public Service Company transformers, and frequency changers; and a 66 kv. No. 2 single-circuit line, which is carried to Alton. That line was mentioned yesterday.

At Alton there is located 6,000 kilowatts in step-down transformers. The line then continues to Hartford, where 8,000 kilowatts of transformers are in operation, and thence

to Lake Avenue sub-station in East St. Louis, which is 15.6 miles south of Hartford.

At Lake Avenue, 10,000 kilowatts in transformers supply 25-cycle service in the East St. Louis district, with a reserve supply, over three 13.8 kilovolt submarine cables from the Ashley Street plant. That is, the service in East St. Louis amounting to about 10,000 kilowatts of 25-cycle load in that vicinity, has a duplicate source of supply, and in the event that this circuit from Mappen sub-station were to be in difficulty, the service would be continued without interruption 6146

—2,639—

by cables going from the Ashley Street station under the river and over to Lake Avenue. In that district we have the large packing companies, the National Stockyards, and this service is quite important.

In general, as we go through this sub-transmission system, I should like to point out that the facilities are, in almost every case, if not all, arranged to provide duplicated service; that the extent to which duplicated service is provided in the area supplied by the Union Electric Group is a very high percentage. I think that is one distinctive feature of the 6147 Union Electric system, the extent to which our main customers have duplicated service.

Q. State the purpose of that duplication, if you will? A. The purpose, of course, of the duplicated service, is to render less frequent possible interruptions, and not only minimize the possibility or probability of interruptions, but to reduce the length of time if any should arise.

The success which a power company may have in the long run with these large industrial customers is, in my opinion,

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to a great extent affected by the actual continuity of the service rendered, as well as the voltage regulation and quality of service. The fact that electric service may be rendered and be of lower grade is not always appreciated, but it is a fact that in industrial work, particularly, both regulation and continuity are of the greatest importance.

—2,640—

The supply of service by these underground sub-transmission cables is obviously more expensive than to do it with
6149 overhead lines, but the reliability is much higher.

Q. Describe the portion of the sub-transmission system in and about the Page Avenue sub-station in St. Louis, if you will? A. The Page Avenue sub-station has been previously mentioned as a main transmission sub-station, which is its chief function; in addition to that, however, there is a large group of sub-transmission feeders leaving this station, and in addition to that, quite a large building containing a group of distribution feeders which will not be described at this time.

When we constantly refer to the Page Avenue sub-station,
6150 it is because that station contains, in the same general location, all of these facilities.

The sub-transmission feeders supplied out of this sub-station are of considerable importance. The fact is that they are very important. There are ten 13.8 kv. 60-cycle feeders which supply ten sub-stations through 104,500 kilowatts of 13.8/33 kv. transformers; and 13.8/4.16 kv. transformers 25-cycle service, at 13,200 volts is provided by 24 feeders which run to 12 railway sub-stations belonging to the Public Service Company, which is the local street car company, and

some of these feeders go to Ashley Street where they in turn are supplying railway load.

—2,641—

The 60,000 kw. of frequency changers, previously mentioned, are on the bus which supplies all of these facilities, and I would like to make this point, that when some question was raised recently about the possibility of supplying reliable service to what is known as Lambert Field, an airport some 9 miles from Page Avenue sub-station, and I was asked whether I thought we could supply good service 6152
to that point, I said that I could conscientiously reply that if we couldn't deliver it at that point, I didn't believe it could be delivered anywhere. And I have summed up the facilities by saying that we had two hydro-electric plants, four steam plants, several duplicated types of substation facilities, and a group of distribution lines—all available at that point, and any one of which should be able to supply that service many times over.

The extent of these facilities is a matter of real point in this particular system. The St. Louis County area, which is adjacent to this sub-station, contains the highest grade 6153
residential and some of the better commercial establishments in the St. Louis area, including University City, which is the largest single town in that district, and the requirements for service are very severe at that point.

The ten feeders previously mentioned, 7 of which supply energy to transformers having a total capacity of 82,000 kilowatts, which furnish the service for nine sub-stations,

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are divided into two groups: seven 33 kv. feeders, and three

6154 *Stanley Stokes—By Respondents—Direct*

feeders supplying the Page Avenue distribution station through 22,500 kilowatts of transformers at the lower voltage delivered of 4,160 volts, three-phase, four-wire.

The statement there is not sufficient to make it clear. The seven 33,000 volt feeders which leave this sub-station, each one having its own transformer, step up and supply 33,000 volt overhead lines which go out several miles in the different directions to supply these step-down sub-stations, which in turn handle the district for such towns as St. Charles, for
6155 example, and various other communities in that area.

The three feeders which I mentioned as going through the 22,500 kilowatt transformers, step down right at the Page Avenue location, and go into this other large distribution building which handles the 4,000-volt distribution.

The 25-cycle sub-transmission circuits from Page Avenue, consisting of 24—13,200 volt feeders, have 8 feeders used as tie-lines to the Ashley Street plant. These are underground cables. Also, ten feeders supplying 12 sub-stations of the Public Service Company, by underground cables. You understand that 10 feeders can supply 12 sub-stations by tap-
6156 ping one feeder to more than one. That sub-station probably has another source of supply from some other location.

Six feeders leave Page Avenue underground, and then are routed overhead, three going north, and three south, to a

—2,643—

number of customer sub-stations.

That is a rather brief summary of a major investment in feeders whose average capacity varies from a minimum of 7,500 or 8,000 kilowatts each, to 12,000.

All of these transformers on those feeders that step up are provided with air-blast equipment which permits the

transformer to increase its rating for emergency operation. The later transformers installed on some of these equivalent feeders are rated 10,000/13,333 k. v. a., that meaning that the transformer which has a 10,000 kilowatt self-cooled rating, with the radiators exposed to the air in a normal manner, can automatically, by the operation of relays, turn on some motor-driven blowers which blow air rapidly over the surface of the radiators in the transformer, and raise the capacity of the transformer.

This is used in connection with reserve service. If one 6158
line of any three of those were to go out of service, the other two would pick up the load.

Q. Now if you will, describe the portion of the sub-transmission system in and about Ashley Street? A. Ashley Street station, which was previously mentioned, has been in service for many years, has the ground around the station for a distance of about a block almost paved with cables. I believe that that statement is hardly much of an exaggeration. Literally, it is getting difficult to find room to put any more

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conduits in that immediate vicinity, and the temperature rise 6159
of such cables has to be carefully analyzed as larger numbers of them are involved in close proximity, and each one contributes a certain amount of heat and the ground has to radiate it.

Ashley Street both generates and distributes 60-cycle and 25-cycle energy. The sub-transmission system at Ashley Street may be summarized for 60-cycle energy as: 21 feeders going to six sub-stations, including the downtown AC low-voltage network. This network is a relatively recent installation, and will be discussed in more detail later.

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The 25-cycle system supplies energy to six sub-stations over 18 feeders, and also serves 13 Public Service Company (railway company) sub-stations over 13 feeders.

Q. Now have you stated the voltage of the feeders going out of Ashley Street? A. No, I shall do that.

The steam mains out of Ashley Street are large, and carry 200-pound steam pressure, and there has to be great care exercised where the steam mains and the cables are in the same vicinity, and problems of that type are the result
6161 of concentration of load in congested city areas. Such problems are not encountered in lower-load-density districts, but they frequently present real difficulty for satisfactory solution.

In this case, we have to highly insulate the steam mains,

—2,645—

and then provide special facilities for cooling the conduits, and one of our very large customers is a refrigeration company which has 10 to 15 miles of distribution refrigeration service. They pump the refrigerant around the city and expand it at different locations. Although we work very
6162 closely together to eliminate any problems that may arise, we get into some street intersections where the refrigerating company and the steam heating mains, and all the electric cables, converge. The steam heats the refrigerant, which causes it to expand and produces difficulties in pumping it, and the steam main also may have a detrimental effect on the electric cables; the electric cables may affect the refrigerating line, and they are not very good neighbors.

There is only a certain amount of space left in these streets, and we have to utilize what there is with the greatest care.

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The voltage at which the energy at 60 cycles is handled out of Ashley, is largely at 13,800 volts. There are 25—13.8 kv. feeders (four tie-lines to Cahokia with 43,500 kw. in 13.8/33 kv. transformers). I have got to mention that at this point because, although it is located there and is intimately connected with this sub-transmission system, it was referred to and classified with the main transmission system, that is, those four feeders. They tie between the Cahokia station and Ashley Street station.

—2,646— 6164

The balance, twelve 13.8 kv. feeders, go to five sub-stations and customer sub-stations, and six feeders go to the down-town network transformers.

The sub-station which we refer to as No. 6, and which is located within the Ashley Street power plant building, is a 4,160-volt, 3-phase, 4-wire distribution station.

There are three generators connected to the 4,160-volt bus, having a combined capacity of 42,000 kilowatts, and in addition, three feeders connected to the 13.8 kv. bus, through 27,000 kilowatts of transformers. That is, there are several 6165
buses in Ashley Street, all of which are duplicated, again at increased cost, to obtain better service, and these buses are each used to supply certain load at the respective voltages, and in addition, each of these buses is connected with one or more of the others by a tie-transformer and cable.

The application there sounds complicated, but is relatively simple. It simply means that we have generation at more than one voltage, and on more than one bus. We have distribution to these sub-transmission cables at more than one voltage. And in order that there may be available reserve

service, each of these buses for the other, they themselves are tied together with sizeable transformer banks.

In the 25-cycle portion of the plant, there is a 6,600-volt bus to which four turbines, aggregating 56,000 kilowatts, are connected, and to which 25 feeders are connected.

—2,647—

Fourteen of the 6,600-volt feeders supply five D.C. stations with energy for their conversion equipment. Those stations are going to supply the Edison 3-wire D.C. system.

6167 Seven of the feeders go to five Public Service Company sub-stations, and four feeders connect to 34,500 kilowatts in what we call Sub-station No. 9, also located at or very close to the Ashley Street power plant building.

Sub-station 9 has four transformers of a total capacity of 34,500 kw., as mentioned above, which step the 25-cycle energy up to 13,200 volts; also eight 13,200-volt tie-line cables connected to Page Avenue, over which the 25-cycle energy can be exchanged.

More simply, and to clarify the general relationship, the Keoknk energy generated at Keokuk comes to St. Louis over

6168 the high-voltage main transmission line, is delivered to Page Avenue, from which point that energy can either go to the frequency changers and be converted and placed on a 60-cycle bus, or it can go down over these 13,200-volt underground cables to this Sub-station No. 9, which is Ashley Street, and there tie in on a 25-cycle bus to which the 25-cycle generating equipment is connected. Off of that bus there are distribution circuits, sub-transmission, which take the energy out to primarily the Edison sub-stations for conversion to direct current.

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I believe that describes that part of the plant sufficiently.

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Q. Now, if you will, a similar explanation as to the portion of the system in and about the Venice plant? A. The Venice plant is not so complicated, it does not have so many facilities. It gets its power away from the plant, in general, by higher voltage lines and less of them. The Venice plant at this time has three 33 kv. cables supplying sub-stations in St. Louis. Those are submarine cables across the river. It also has two 66 kv. tower lines which supply transformers 6170
of 48,000 kw. capacity in Federal Sub-station at Alton. That sub-station will be described later.

The Illinois-Iowa Power Company receives power at 66 kv. and transmits it over their own double-circuit tower line into Illinois towards the north and east, going to Staunton and a sub-station site known as Stallings. We have no connection with that other than to sell them power at the power plant site.

The sub-transmission system at the Venice plant has three step-down transformers of a combined capacity of 40,- 6171
000 kilowatts, reducing the voltage from 66 kv. to 33 kv., and supplying the cables previously mentioned, which go to St. Louis, to two sub-stations.

There are also two 66 kv. feeders, previously mentioned, going to feed sub-stations at which point the general service for the entire Alton district is supplied. The details of the capacity of that station will be reserved for a little later

—2,649—

discussion. It is rather a major station in our system.

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The Venice sub-transmission system, under discussion here, is being modified and supplied in a somewhat different manner at the present time, due entirely to the construction of the new Venice station.

The concentration of all of the power in that location at 66,000 volts, without any segregation by transformers, would produce, by the time the plant was extended to its second section, such heavy short-circuits that system reliability would be impaired. This does not mean that we could
6173 not go ahead with the present service as now rendered, which is highly satisfactory, but it does mean that at some time in the future we might be required to change the methods. We have looked into that matter carefully, and analyzed the possible effects on service, and have decided that we are justified in spending the necessary money today to connect those circuits into the new plant onto the 13,800-volt bus, and we are purchasing new step-up transformers to do that. That is a question which in many cases, I think, might be resolved on the theory that everything is all right, why not let well enough alone.

6174 We could save the price of four large transformers if we were willing to risk the reduction in the grade of service on the system. We have obtained approval to buy these transformers. —2,650—

I like to bring these points out, because they represent the added investment that is necessary in a system of this kind if you intend to deliver the very best grade of service which you possibly can, and in a concentrated district, I think that that is the only attitude to take. The service demands that type of reliability.

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I have very little else that I think need be mentioned there at Venice. These three feeders which have been described will be removed, the transformer will be removed, and used elsewhere, and the new transformers will be located in a row along the river on top of the levee, and each one of these will be supplied directly from our new 13,800-volt buses which were mentioned yesterday in the design of the new plant, and feed across the river very similarly to the Cahokia feeders, through the underground submarine cables.

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Q. Turning now to the Cahokia plant, will you give similar information as to the sub-transmission system in and about it? A. The facilities in and about Cahokia are, of course, many times more extensive than any of our other stations, and yet there is ample room to get all of these facilities out in an orderly and very simple manner, which we now appreciate. That is to say, the judgment which was used initially in locating Cahokia and in acquiring adequate land when the company obtained it, and in anticipating what the picture would look like 20 years later, has certainly paid

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dividends. That is to say, it is making the station one of excellent design today, whereas a lack of such foresight would have crimped the situation entirely.

I like to point to Cahokia as being a station with as many facilities going out of it as any that I know of, and yet it does not appear to be congested, and it is operating with perfect reliability.

The difficulties at Cahokia are few and far between, and never very serious.

The plant has two 66 kv. circuits leading from the outdoor sub-station in the yard, supplying power to the Illinois-Iowa Power Company at Belleville. Those two feeders have been previously mentioned under our main transmission system, but because we are describing the supply to this area, I mention them again.

Three 33 kv. feeders go to a sub-station in East St. Louis, known as Winstanley, as well as one known as Main, and Lake Avenue sub-station.

6179 Three 13.8 k. v. feeders supply a large number of customer sub-stations in East St. Louis, and the surrounding industrial area. That is, these three feeders, which have a capacity of roughly 3,500 to 5,000 kilowatts each, go around and tap various industrial plants where the plant itself owns its own sub-station. We supply them with power.

— 2,652—

The larger portion of the power from the Cahokia station crosses the river into St. Louis through a combined total capacity of 202,500 kw. in 13.8/33 kv., step-up transformers. These cables supply power to 12 A. C. sub-stations
6180 which are connected through 24—33 kv. submarine cables, where they cross the river, and thence, by ordinary underground lead cable in ducts, to the sub-station. One A. C. sub-station is supplied with power by two 13.8 kv. cables.

Four D. C. sub-stations receive power over four 13.8 kv. cables. This makes a total of 17 A. C. and D. C. sub-stations supplied by 30 cables.

At this point I would like to digress just a moment to illustrate that when we were describing the 25-cycle system at Ashley Street going into the sub-transmission feeders,

we mentioned that some of those feeders supplied the sub-stations which convert from 25-cycle to D. C. Now from Cahokia you have a similar group of 60-cycle feeders which go to similar conversion sub-stations to convert to the D. C. for the Edison system.

Thus we have about 34,000 kw. all told of Edison D. C. load which is about equally supplied from 25-cycle and 60-cycle systems. Thus, the most severe case of trouble that you could conceive, which might conceivably, under that assumption, shut down one whole system, either 25 or 60- 6182
cycle, would still affect only half of the Edison system, because they are not electrically connected between the 25

and 60 cycles in such a way that they can possibly affect each other to any extent.

Thus, the degree of reliability which we have obtained on the Edison system by the use of the two frequencies in that manner, would be impossible, as far as I know, to obtain otherwise. The record of this Edison system has been very good indeed.

Q. Where is the Edison system located? A. That Edi- 6183
son system represents the main downtown, heavy business district, running about 10 or 11 blocks north and south, and possibly 16 to 18 blocks east and west. It is a very small and dense area. The load density in that area is comparable with any part of New York except a very few blocks right in the Manhattan area. It is higher than the density of New York outside of that point. But it is a very small area, it only measures .4 square miles. It has, at the present time, about 75,000 kw. in that little area, which, if you divide it by .4, is a very high load density.

6184 *Stanley Stokes—By Respondents—Direct*

The additional load in that area is being taken on the A. C. low-voltage network.

I think no further details need be mentioned of the tie-system between Cahokia and Venice, or rather Cahokia and Ashley Street. There are transformers at Cahokia which supply these tie-cables to Ashley Street, just as there were at Ashley. Those cables, by the way, are 450,000 cm. conductors, on those tie-lines, whereas the majority of our cables

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6185 are 350,000 cm. Those are large cables.

Q. Now, similar information as to the portion of the system around the Rivermines plant? A. Rivermines, as you will recall on Exhibit No. 51, was located at the southern end of our system, and is a major switching station on the Osage-Rivermines-Crystal City-Cahokia circuit. That can all be regarded now as one transmission circuit. We described it in sections yesterday, but it is all contiguous, and this switching station at Rivermines permits the segregation of that circuit into the section running between Rivermines and Osage, or between Rivermines and St. Louis, by auto-

6186 matic, high-voltage switching, in such a way that as long as any one of the four circuits feeding into Rivermines is available, service can be supplied. The result is that the St. Joseph Lead Company, with roughly 27,000 to 30,000 kilowatts of mining load, depends exclusively on our service for their operations, which is quite a compliment to the service. They had always felt that in addition to any kind of outside service supply, they should have a reserve steam plant, too. We have the plant there but we don't find it necessary to operate it; they do not insist upon it. When

they used to carry their own load with their own plant, they had an insurance policy with Lloyds which would pay the most fabulous sum in case a tornado took away their plant. I wish I could recall the exact figure, because it showed a

—2,655—

good example of the attitude that they had as a measure of the value of that service. If that plant should be blown away, they would be paid something on the order of $50,000 a day for the length of time required to rebuild it.

Q. From whom was the Rivermines plant acquired? 6188
A. We purchased the plant from the St. Joseph Lead Company.

Now in connection with this switching station which is the means of furnishing continuous service on these Osage circuits, we have located at Rivermines two 25,000 k. v. a. synchronous condensers. Those are rotating machines which are used to control the voltage on the transmission lines. It is a peculiar fact, well known to electrical people, that what is known as a leading current, meaning a current in which the voltage lags behind the current in the ordinary oscillation, if it were to be plotted you would find the current 6189
leading the voltage by certain angular degrees. When we have a leading current flowing through an inductance, a voltage drop is obtained. This voltage drop, instead of subtracting from the generating voltage as an ordinary voltage drop would do, is added in such a direction—this being a vector addition—is added in such a direction as to cause the voltage to rise. It is a rather peculiar phenomenon, but advantage is taken of that fact so that by operating a machine which is in all respects equivalent to a generator or motor,

—2,656—

with a very high field excitation, that machine will absorb the reactive flow of power, cause a leading current to flow in the main transmission line, and when flowing through a transformer will actually produce a voltage drop which adds to the generated voltage in such a way as to increase the total. The voltage at the end of the line, removed from the generator, can be made to rise instead of drop.

Those machines are automatically controlled to maintain voltage at any point desired, and to maintain the power
6191 factor of the transmission line as required.

Those facilities, again, are a measure of the service reliability. One of those 25,000 kw. machines is adequate to handle the transmission system. The other one is in there purely as a reserve unit and for additional reliability.

Off of this sub-station is tapped a transformer station, and that transformer station supplies a sub-station containing a number of 6,900-volt feeders. Those feeders supply the St. Joseph Lead Company direct. It has on the order of 50,000 k. v. a. of distribution transformers scattered around over the mining district there.

6192 In addition to that, this same step-down sub-station from 138 kv. down to 6.9 kv., supplies another sub-station from which several 33,000-volt supply feeders radiate to handle that area for normal commercial and residential purposes.

—2,657—

The switching station itself at this point, on the low-voltage side of the transformers, consists of a four-story building, filled with oil switches and cells and structures, just as any power plant would be, and the switchboard itself is, I should say, approximately 200 feet long, with one panel right after another. It is a very large installation.

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I should like to give some detailed figures as to the number of these circuits which I have just described.

There are twelve 6,900-volt main feeders; two 6,900-volt feeders go to 15,000 kilowatts of 6.9/33 kv. step-up transformers, through oil circuit breakers, to a 33 kv. outdoor sub-station. That is the one that supplies the local area through five 33 kv. overhead lines. Those lines go north to Festus, Missouri—I don't believe the town is indicated on Exhibit 51, but it is adjacent to Crystal City, which is shown on the exhibit; also to a number of other towns in the surrounding 6194
district there, among which I can mention Farmington, Bismarck and Fredericktown, the latter being shown on Exhibit No. 51.

Two feeders supply the towns of Flat River, Bonne Terre, De Soto, Victoria—these towns all within a radius of 25 or 30 miles of that station—with service. This circuit, which was mentioned as going north to Festus, is primarily used as reserve supply for that town, it having another source at a sub-station at Crystal City which is shown on the exhibit.

—2,658—

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One circuit out of this Rivermines sub-station delivers energy to the Arkansas-Missouri Power Corporation for their supply in Southeast Missouri. That is not a major connection and I am not sure whether it is shown on this exhibit, Exhibit 51. Yes, I find it is shown here as "A-16", the point of delivery.

At Crystal City, which is indicated on the exhibit, we have another sub-station which supplies primarily, first, the plant of the Pittsburgh Plate Glass Company, a large glass manufacturing industry who receive service at main transmission

voltage of 138 kv., and who transform it down through their own transformers, and who own their own sub-station.

That is a very extensive and very interesting connection at that point. That is just a couple or three spans away from that river crossing which we described previously, and the difficulties of construction continued right on over to the plant. There is a very high bluff and some rugged hills and then a railroad yard and a small river or creek, with no place to locate towers. So the last span into the Glass Com-
6197 pany had to be carried for some distance and terminated on a tower 150 or 175 feet in height, in the Glass Company's yard, which they themselves provided.

It is a very rugged structure. Also, due to the alkali fumes which the Glass Company emits, we had to change from an aluminum to a copper weld steel in this last span. It also developed that we had to terminate on this receiving

—2,659—

structure in a horizontal position and were leaving the top of this high hill in a vertical position. The middle arms of this double-circuit tower had a large offset, that is, they were
6198 longer than the top and bottom, and in attempting to rotate these circuits from the vertical to the horizontal plane, with that offset in the arm, you cannot obtain safe clearances in the middle of the span. We anticipated the difficulty and made up a few model spans, and convinced ourselves that it just wouldn't work that way. So we located the long arm at the top, and rotated the two circuits in opposite directions. That changed the phase position of the conductors on the terminal tower.

We notified the Glass Company of this position, and gave them a diagram showing the position of the conductors. In

other words, if you numbered them they would be A, B, C—B, C, A, instead of A, B, C—A, B, C—and even at that, they got into a little difficulty in the preliminary development of the problem, because they didn't particularly receive our diagram with sufficient care, having been used to using single-phase transformers, and figuring that they could make their connections anywhere they wanted to on the low-voltage side of the transformers.

As an actual fact, when they went to make these connections they found that they had to make a change in the trans- 6200

formers to do it.

Service has been very satisfactory with that customer,—in fact, it has been one of the satisfactions in my work to deal with that particular customer. I made the original arrangements, and have negotiated with them from time to time in connection with change of contracts, and in every respect the relationships have been extremely satisfactory.

We, in one or two cases, felt we were leaning over a little backward in the arrangements that we made with the customer, but at a later date we wanted to change the service 6201 and extend these lines to Rivermines, and the customer reciprocated, and we felt well repaid.

The sub-station at this Crystal City plant of the Pittsburgh Plate Glass Company is operated jointly by ourselves and the customer for our mutual economy. That is a rather interesting situation there in which they have their own operators, we have the communication lines in there, we divide the cost of operating the sub-station, and in turn they supply to us through their transformers, voltage which

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we step up to 33,000 volts, and in turn we supply our local area at Festus, Crystal City and Herculaneum, three cities adjacent to each other.

That arrangement has been very much cheaper than for each of us to do this thing by ourselves. In addition to that we have, within the last year, negotiated a contract

—2,661—

which gives us permission anytime we wish, to install our own transformers, of larger capacity, in their yard, and to
6203 utilize all of the facilities of the high tension spans, towers, switches, and so forth, and supply our own service with them, thus giving them the full capacity of their own banks. This anticipates a joint growth of load on their part and ours, too, and it is interesting to realize that after operating on a joint basis since 1925, we are both willing and glad to enter into an agreement to continue such operations.

That sub-station has two 10,000 k. v. a. transformers, stepping from 132 kv. to 2,300 volts. We step it back up from 2,300 volts to 33,000, through two 3,000 k. v. a. sub-stations. At the time this agreement was entered into,
6204 we had just gone into the new district and were supplying service and had a load of only about 650 kw. ourselves. That load has multiplied many times since then, but we could not have justified a separate high-voltage sub-station for our own purposes. At the present time our load is big enough so that we could justify it, but we still find it economical to work this joint arrangement, although we are going to eliminate the double step-down and step-back-up voltage practice.

There is one other sub-station which I should like to mention, and it is located on the north route of the 138 kv.

transmission line between Osage and Page Avenue, and is marked as a square with the letter "A" on Exhibit No. 51. That is located in Franklin County. That is, as far as I

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know, the only fully automatic, high-voltage sub-station of its type, although others are in contemplation.

It has been operating with great success for two years. It has two high-voltage switches which connect on the 138 kv. lines, an automatic transfer system to provide a certain type of selective service; one bank of transformers which step the 6206
voltage down to 33,000 volts; and the low-voltage facilities.

One of the interesting features of this sub-station is that it was intended to be a fully automatic, unattended station, located out in a country district some 6 miles from the nearest town. The requirements were that no operations of this station should interfere with the service of the main transmission line in so far as it is at all possible to do so.

So far, no such interference has been observed. This requirement, however, placed very serious restrictions on the time available for relay and switching operations. The stability limits of the Osage-Page circuits were such that 8 6207
cycles was the longest time that we were permitted to use in clearing the circuit in case of trouble. If a short-circuit were to occur on one of the outgoing 33 kv. feeders, from this Franklin County sub-station, and if that short-circuit were adjacent to the sub-station, calculations showed that it would

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be able to interfere with the main transmission line.

Therefore, we would have to get that service off even quicker. The result was this, that we developed, in consul-

6208 tation with the General Electric Company, a device which they call a relay, but which is really about half a dozen or so relays, mounted in a glass case, and those relays measure the distance of this accidental fault from the sub-station. If that fault is more than a mile and a half, we delay the operation of the 33 kv. switching, giving time for the individual 33 kv. supply lines that go out through that district to clear. By that I mean, if you have 5 such circuits, which we have, if there is trouble on one of them, we wouldn't
6209 anticipate that, but we will let it clear itself if it can be done within 10 or 12 cycles.

If, however, that fault is closed to the station, this relay system uses a little judgment and we clear out the main switch in the sub-station, which will interrupt all five of those 33 kv. circuits, rather than interrupt the main transmission line, and then they are all re-closed immediately. I should have mentioned that this station is not only automatic on the transfer from one circuit to another on the high-voltage line, but also automatically reclosing and finally locks itself out and rings a bell after the third operation.
6210 It has only locked out once, as far as I know, and that was due to a snake climbing 30 feet up a steel structure, which

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they are not supposed to do. When I say that, I mean that it is the general belief out West in the prairies that if you lay a lariat or steel cable or steel rope around your tent, a snake will not crawl over it. I used to do it with regularity when I worked for the Utah Power & Light. But there is a slight spitting due to corona on these sharp points around such a station, and it makes a little hiss, and the natives

have assured us that the snake thought there were some birds up there, and went up after them. We got the snake, but he didn't get the birds.

That instance was the only lock-out that we have had, that I know of.

This sub-station in Franklin County is designed to replace the present transformers with larger ones at any time that the service requires it, and the sub-station can readily be brought up to any convenient capacity, such as 25,000 or even 50,000 kilowatts. The immediate requirements are 6212
small, and the present capacity is, I believe, four 3,333 k. v. a. transformer units.

The units themselves are single-phase. The reason for that was that the weight of the 3-phase transformers was too great to handle over the roads and the bridges, and even taking the ones we did, we had to block up under some of the bridges.

I think that covers the main sub-stations of Rivermines, Crystal City, and the Franklin County sub-station.

—2,665— 6213

The Examiner: Let us have a short recess at this time.

(Whereupon, a short recess was taken, after which the hearing was resumed.)

By Mr. Hamilton:

Q. In addition to the sub-stations you have already referred to, in the sub-transmission system, are there any

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other sub-stations of major importance in the system? A. Yes, there are at least two important stations that I should like to mention. They are a little different than the stations so far mentioned, namely, in that they are large sub-stations at the end of the sub-transmission system.

One of them is the Federal station at Alton, which covers what we call the Alton district. The town lies about 25 miles north of East St. Louis, and has considerable heavy industrial load in the area. The sub-station is supplied from

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the two 66,000 volt lines that go north from Venice to Alton, and it, in turn, is a switching station and transforms the voltage to 33,000 volts, and distributes it over a number of rather high capacity 33,000 volt circuits, going to such customers as the Laclede Steel Company, and the Owens-Illinois Glass Company.

It also supplies a sub-station for the City of Alton, known as the Liberty Street station.

The capacity of that station at the present time is 48,000 kilowatts, and the circuits having been recently enlarged, we

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expect to transmit ultimately 45,000 kilowatts on either circuit, and will expand that sub-station.

The load is growing very rapidly in that district. Included in the customers supplied from this, I should not overlook the Shell Company. They have a load which has been increasing at the rate of from 500 to 1,000 kilowatts a month for the last six months, and an anticipated load of about 14,000 kilowatts by the end of next year. The present load is around 12,500 to 13,000.

Loads of that character are quite a responsibility for an electric company, and we have had very successful service for that refinery.

The other sub-station which I should like to mention is the Webster Groves station. This is located in St. Louis County, west a few miles from the St. Louis city limits.

Three 33 kv. circuits from the Cahokia plant are brought in to the 33 kv. outdoor sub-station at Webster Groves. From this sub-station, two 33 kv. circuits go west and north, supplying energy to the various towns and villages, and supply- 6218
ing a reserve circuit which goes to Franklin County and ties in with that automatic sub-station which I have previously described here.

In addition to the switching station supplying outgoing 33 kv. feeders at Webster Groves, it also supplies considerable capacity in step-down distribution transformers for local distribution. That will be covered a little more ex-

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tensively in our discussion on the lower-voltage distribution system.

I believe that that covers all of the sub-stations which 6219
I feel should be specifically described. You appreciate that there are a large number of these stations which are of a somewhat lesser importance than those mentioned, and I could go into a detailed description of them for hours. But the typical larger ones have been described.

Q. Is the sub-transmission system in the St. Louis area designed to insure reliability of service? A. It very definitely is. That is a point that I alluded to a little earlier in my discussion, that the multiplicity of interconnections of these

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33 kv. sub-transmission circuits in St. Louis, and St. Louis County particularly, and to a large extent in the rest of the area, provide an opportunity to restore service, in the event of outage, very quickly, and in addition to that, provide sufficient capacity that such outage should have no effect on the service itself.

The 33 kv. circuits in St. Louis County criss-cross in the form of squares on most of the main roads, and by changing the disconnecting switch positions, the circuits can be routed
6221 in different configurations, so that our Page Avenue sub-station could supply the City of Kirkwood, for example, or Kirkwood could have been supplied equally well out of the Webster Groves station. In the event there is any highway

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work goir g on, of which there has been a great deal in recent years, we try to keep at least one reserve circuit supplying these major communities, on a highway which is not being constructed, that is, the pole lines are either parallel with the highway or back on private right-of-way a few feet. And there is always the possibility of the highway work causing
6222 some damage, due to blasting or otherwise. So the facilities for interconnection are very extensive.

The feeders for this sub-transmission system are operated in parallel on the low-tension side of the transformers, that is, the cables leading from the main high-voltage transmission system out to this receiving sub-station are usually operated as a cable and a transformer, each cable having its own transformer, and the switching being done on the supply side of the transformer at the source, and on the receiving side of the transformer at the receiving end.

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The result is that we keep the short-circuits down by that method.

On the low-voltage side of the receiving sub-station, we have a regular standard bus construction with all the low-voltage circuits in parallel, supplied through oil switches.

Q. You referred to tl rather extensive use of underground cables in St. Louis, and the area more or less contiguous to St. Louis, in St. Louis County. Is the matter of cable loadings a subject of considerable investigation by

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the Union Electric Group? A. Yes, it is. We have had to do rather an unusual amount of work in this connection in establishing suitable cable ratings, the reason being that St. Louis has very high ground temperatures in the summer. Our water mains reach a temperature of 90 and above in dry, hot summers, and we have had a temperature of 94 in the Mississippi River water at that point.

—2,670—

To bring out the extremes to which some of those conditions got to in 1936, which was our all-time hot year, the river water going into Cahokia at a temperature above 90, went through the boiler room concrete floor and into the shower baths, where the men cleaned up after working hours, and the water got so hot that they couldn't take a bath. That was just due to the temperature of the water all being—already being 95 when it came into the building, and passing through the boiler room floors where there was heat in the concrete, and the cold water got so hot that they couldn't stand it and complained. That condition is not general. Therefore, other cities can be of little help to us, and we have to work out our own rating by experience.

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We have gradually developed a sort of discount table that we can apply to what are generally conceded to be conservative cable ratings, and we have to use a little lower rating in the summertime. We establish what we call emergency rating on a cable, and that is the highest load which we will put on that cable in the summertime. Then we have a normal rating which represents the maximum load that we would be willing to carry on the cable at all other times. Those loads have to be taken into consideration with the number of hours
6227 which they operate because the cable and duct system heat up gradually as the load is increased.

A cable which has been running cool over Saturday and Sunday, can carry much more steady load Monday than it

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could on Tuesday, because it has had 36 hours to cool off. The result is that the matter of cable ratings is really a complicated subject.

Our present conclusions are these. A 450,000 cm. which is the largest size we use regularly in the 33,000-volt service,
6228 is rated at 13.8 kv. at 7,730 k. v. a.; at 33 kv., at 16,500 k. v. a., each.

The normal operation of such a cable would be to have two supplies to a sub-station. The result is that the normal load would be 50 per cent. or less, because there will be two cables supplying this load. And the only time that the load would go up to these values would be when one cable is out. Now, of course, it is entirely likely—in fact, it is very probable—that neither cable will be out during the hot weather, in which case we could have increased that load to possibly a couple of thousand kilowatts higher, but we can't assume

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that, so we limit the emergency rating, which is the rating we will put on the cable when the other cable is out of service, to these values.

For a 350,000 cm., 3-conductor cable, which is the one we use the most of, we have 6,680 k. v. a. at 13,000 volts, and 14,500 k. v. a. at 33,000 volts.

The other two sizes, which are in rather general use, are 4/0, rated at 5,030 k. v. a. at 13,000 volts, and 11,000 k. v. a. at

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33,000 volts. The smaller one, 1/0, is similarly rated at 3,480 and 7,400.

If we have a large number of these cables in a duct, or if we know that there are other cables in the street adjacent to it, we apply a correction factor and reduce the rating accordingly. In other words, we have got to make allowance for the total heat liberated within a given ground area, and as a result of considerable study and analysis of the life of cables in the St. Louis district, we feel fairly satisfied with these ratings. There is one question, however, and that is it is entirely possible that some of these emergency ratings

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can be materially increased without actually damaging the cable. That is receiving much study at the present time.

Damage to cables is being carefully analyzed and a post mortem, so to speak, carried on after each cable failure, with extreme care, trying to find out why the cable failed. We found that, among other things, the creepage of these cables in the ducts, due to expansion and contraction with temperature changes, was such as to cause a crystallization of the lead at the point where the cable leaves the duct and goes into the manhole, and that many of these failures were

attributable to such causes as that, and not directly to the high temperatures. If those prove to be the majority of the troubles, then it will be possible, by using more care in the design of cable and duct arrangements, to actually run these cables to much higher temperatures without damage.

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There are some experiments being carried on to determine that, and it takes several years to be sure of these figures. It would mean a great deal to any company to be able to
6233 increase these ratings by even 10 per cent., because the investment in the cable system is huge.

One other expedient that has been adopted is this. Where we go through a soil that we know to be particularly a poor heat conductor, for example cinders, a cinder fill, we have learned to increase the size of the cable. We will put in a section of 450,000 cm. in a cable where the rest of it is 350,000 cm., thereby reducing the losses in that section, and hence reducing the heat and keeping the temperature down that way.

Q. Are the present sub-transmission facilities of the
6234 Union Electric group adequate for present loading and for presently anticipated loading? A. They are, and in addition they have a large reserve capacity. The approximate ratio of loads on some of these cables, to their maximum capability or capacity, may be illustrated.

The particular examples that I am using here are taken from some alternating current sub-stations in the City of St. Louis, but it would be equally applicable to any of the others. These happen to be more convenient to obtain the information on.

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In a list of 23 stations which I prepared, the highest loading that I could find was 75 per cent. of the capacity of the transformer banks, and this occurred at the Page Avenue station. That station is scheduled for an addition in the near future.

The next highest loading in this group was 67 per cent., at a station known as Lesperance. That is still satisfactory down there at that station because of the interconnection with other stations. If that were 100 per cent., we could still operate satisfactory because we have ties with other 6236 stations that would carry part of that load.

In general, looking over this group, we find figures as low as 28 per cent., 30 per cent., 32 per cent., and the result is that the average ratio of load to capacity does not exceed about 50 per cent.

Q. Now, that percentages, is that the peak on the particular sub-station? A. The peak on the particular sub-station, yes. It may not be at the time of the system peak. That has no interest to a particular sub-station. It is only concerned with its own annual peak.

I might explain why there is as much capacity in some 6237 of these stations in reserve as there is. That is, if there could be any criticism of this ratio it would be that we haven't got these stations loaded up high enough.

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The answer is that a good many of these stations are relatively new, and it is not practicable to put in these high voltage underground cables and ducts in small sizes. The duct cost is high, and the cost of a 10,000 kw.-33 kv. cable is only slightly more than one of smaller size. In other

words, the insulating requirements are the same, the lead sheath isn't much different, and whether you put a small wire in or a big wire, you have spent pretty near as much money.

Therefore, it is better to put them in as big as you intend to put them in ultimately, even though you have to carry the fixed charges for a few years. The result is that we change transformers as needed, and ship them from the larger stations to the smaller ones, but cables are usually
6239 put in with ample capacity, and in these downtown or city stations, we put the transformers in to match the cable. Within a few years that ratio will be higher on these low values. The low values will increase, in other words, we will have the stations loaded up to a higher ratio, but the high values will be kept down for transfer of load or adding additional capacities. In general, there is ample capacity in this system to handle much additional load.

Q. Now, will you summarize the number of feeders on the sub-transmission system, giving a total figure, if you will? A. The sub-transmission system has a total of 226
6240 feeders on both the 25 and 60 cycle systems, and they are approximately equally divided between those two.

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As an example, I have 66 kv., 60 cycle feeders; 25 cycle and total.

There are 6-60 cycle feeders; 3-25; and 9 total.

Now, if I go through the different voltages and the different frequencies in that manner, I arrive at 117-60 cycle feeders, of all voltages from 66,000 volts down to 6,600; and 109-25 cycle feeders, or a total of 226. These are not to be

confused with the ordinary small distribution feeder, but they represent capacities from 5 to 15 thousand kw. each.

Q. At the outset of your discussion of the sub-transmission system, you indicated that the sub-transmission system represented the link to the distribution sub-stations. Turning now to the distribution sub-stations, you are able to state the total number represented in the Union Electric Company group? A. These distribution sub-stations which receive their power from the sub-transmission system and distribute it to the moderate low voltage distribution sub-stations, rep- 6242
resent 63 alternating current and 9 direct current sub-stations in the Union Electric group, with an investment in excess of $11,600,000 in land, structures and equipment.

The total connected capacity of these stations is 643,000 kilowatts and they range from a 100 kilowatt station to one of 42,500 kilowatts. That summarizes the distribution stations.

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Q. I think you might state at this point, in order to clarify any description you may give of the distribution sub-stations, 6243
the general character of your distribution system, whether network, radial or direct current? A. Our distribution system is, to a large extent, what is known as the radial system, preponderantly so. This is the result of long years of historical growth, combined with many factors that made this the most economical arrangement for our conditions.

In addition to the radial A. C. distribution system, we have a low voltage A. C. network in the downtown district. This supplies service to the customer at 120/208 volts, and it is supplied from a series of what are known as network transformers.

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These are in turn supplied from a 13,800 volt sub-transmission system.

At the present time I should like to place more emphasis on the radial system. In the St. Louis district we have, as previously described, supplied our distribution sub-stations by means of 33,000 volt and 13,000 volt underground cable, and in a great part of the city we still are able to retain the distribution on the low voltage side as an overhead system. We removed 5 miles of this system every year, and replace it
6245 with underground supply. It is appreciated that this type of system is adapted to what is known as the radial system. The other systems have a feature of using a large number

of small sub-stations, and a radial system uses a smaller number of larger sub-stations.

The result is that the radial system economizes on the cost or investment in the supply facilities of the sub-transmission feeders.

In St. Louis these facilities represent the most expensive part of the system and therefore, to economize on the supply
6246 facilities is a little better for us than to reduce the cost of the low voltage distribution, which is already less expensive.

That is not true in all areas, or in all cities. The 9 sub-stations supply the 120/240 volt direct current system, which covers 1.15 square miles in downtown St. Louis. This is not what apparently might be regarded as an error in the area, which I previously stated as .4 square miles. The downtown D. C. district extends beyond the particular area to which I referred as an extremely dense area.

In these 9 sub-stations there are 19 motor generators totalling 27,800 kw. and 10 synchronous converters, totalling 21,400 kw.

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I have previously described the extreme reliability with which this service is supplied, coming from both the 25 and the 60 cycle systems, each being independent of the other. The result of this high degree of reliability permitted us to do away with storage batteries in 1925, and maintain the same degree of reliability on our Edison system that certain

other companies were obtaining with the addition of storage batteries. They were the most expensive single part of the operation of the Edison system, and it has always been our belief that had storage batteries been eliminated in general throughout the country in the early days, and had more automatic equipment been installed on these Edison sub-stations, that the attitude throughout the country on the Edison systems might have been different. 6248

We do not regard it ourselves as being a particularly expensive system to operate. We are not extending it, but we feel that it has a high degree of reliability, and that it is probably equal to the best grade of service that can ever be rendered by any other system.

The new A. C. current network which is being installed and rapidly extended is the nearest prototype to the Edison three-wire system which can be produced with an A. C. system. It should give equally reliable service. 6249

I would like to point out here that we obtained the benefit, through these years, of pioneering work done in the development of fully automatic sub-stations, and the public has obtained the economy of the—in the elimination of these huge batteries over many years, because of the successful

operation of the automotized sub-stations. The longer we stuck strictly to manual operation, we could not do these things quickly enough to maintain the service. The storage

—2,680—

battery was a necessity.

The total capacity in the D. C. equipment is 49,200 kw., 23,444 being supplied from the 25 cycle system. You will notice there what a nice balance that is, 50 per cent. roughly being supplied for each system, and by overload and a little

6251 excessive loading of cables, if we lost one whole system, either 25 or 60 cycles, we would deliver reasonably satisfactory service in the downtown area. That is a high degree of reserve.

Service on the new 120/208 volt, low voltage, A. C. network, was inaugurated on May 20, 1939. This network now covers the entire D. C. district, but it is not yet fully loaded, nor anywhere near it. It is an unfortunate situation that to put in a thoroughly reliable A. C. network requires that it must practically be put in all at one time, and that all 6 of the supply feeders be provided in the beginning. There have been

6252 some sporadic attempts in various locations to economize on the installation of a A. C. network, and put in only part of it at a time, hoping to go into the rest. The results were not very happy. In other words, the fundamental basic principle of the A. C. network is that these network transformers located in the vaults, of which mention has previously been made, shall be supplied from at least three pairs of circuits, so that the loss of even any one or two of them will have no effect on the service, and the loss of the whole network vault will not affect the service.

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An illustration could be made in this way. Network transformers are designed to have at least a 50 per cent. overload rating, and also a very high short-time rating. If we wanted to supply 3,000 kilowatts of very essential service—I am describing now a type of service where you want to get the best there is—the two installations which are exactly equivalent and done in the same manner are the Radio City installations, which everyone in the country has heard of, and one which so many have not heard of, but which is a complete and duplicate arrangement, located in St. Louis, being in- 6254
stalled this summer for a very large department store, an air-conditioning installation.

There we want to have 3,000 kilowatt service for that building, which cannot be interfupted for any one of almost any number of reasons. The result is that if we were to lose one of those four 1,000 kilowatt transformers, which are installed, we could still supply the 3,000 kw. service. If we were to lose two of those transformers, the other two would be operated at overload until the others were repaired, and we would still supply 3,000 kw. of service. If we lost one of the main feeders from the main power plant, we could lose 6255
one transformer and still supply the service, and similarly if we lost two, we could still supply it.

Not only that, but those transformers are connected to

the customers' service, and also to our street mains, so if we lost a little more than that, we probably could make it up from our other network stations located at the corners of the block, or conversely, if the customer has no peak load on at the time, and has lost no equipment, we have the bene-

fit of at least 50 per cent. of that installation for other customers up and down the street.

This type of service is what is known as service designed for a second contingency outage. Most service can stand one type of outage, but it is in difficulty when the second occurs. Now, the efficiency with which this equipment is being used under those conditions may be expressed as 75 per cent., in other words, we have only 4,000 kilowatts of transformers and cable facilities, and we are able to carry
6257 three-quarters of that as effective firm load, and sustain it through a second contingency outage.

Naturally, that type of service costs a little more than a lower grade of service, but it is what builds the business and the good will.

The growth on that network system is taking place so rapidly that I understand that 1,000 kilowatts or so has been added since I got these notes some two weeks ago, when I made this tabulation, and the installations this summer were anticipated to be 10,000 kilowatts. I don't believe they all came on, but I believe they will all be on by next spring.
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—2,683—

Q. What is the function of the network system, is it to pick up the additional network load growth in the downtown system? A. It is expected to ultimately supersede the older systems of all types, and we hope that if you were to look many years into the future, you would see one simplified system of an A. C. network handling all loads in the area, and the elimination of all other systems in that particular area. We don't care which system we use, we want to use the one which supplies the service the best, and that

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system will be determined by the load density in the area. What we hope to do, insofar as possible, is to not duplicate the system, we want one, but not two, because each system that overlaps the other in the same area, saps the load and divides it between two systems; whereas, if only one were available, your overall efficiency on your investment would be greater, and we are making every effort to follow that principle; but in our four kv. radial distribution systems, we carry all the loads in that area on that system, and would not hesitate to pick up a relatively large industrial load. 6260
On this 120/208 volt network, we are not hesitating to pick up a 3,000 kw. customer, the point being that if we can do the whole thing in a given area, with one system, we will give better service, and greater reliability at lower cost, than if we let it overlap into two or three. So that even in the D.C. district we can not avoid building some of this A. C.

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stuff into the same area in order to pick up the load growth, but the ultimate plan is to eliminate any duplication.

That new A. C. network system we have just installed is 6261
the very last word in the United States on that class of equipment, there is no better. It ought to be, because it has just been installed. We studied the various systems throughout the country for several years, anticipating this installation, because it will be the major investment for the whole company at some time, and to get started right is extremely important.

We thought we might go into it three or four years ago, but we studied it carefuliy and decided that there was no merit in doing so. The fact that that conclusion was correct

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has been demonstrated because since that time there have been several changes of opinion in the country as to what the final A. C. network voltage and type was to be. Some thought it would be a 5-wire system; others thought it would be 2-phase, and all of those installations are available around the country, but there are now in the neighborhood of five or six hundred thousand kilowatts of total load in the United States on network systems at this voltage, and that is so preponderant that there is no longer any possibility that
6263 some other voltage may become the ultimate future standard, and we feel entirely safe in adopting it.

To get our system in the best possible condition to make

—2,685—

the most use out of this new A. C. network, we made a study of the lamp ultilization voltages on our system, and compared that information with the use of such utilization voltages on other systems of the North American Company, and as a result we decided to raise our voltage about 2½ volts and adopt what is known as the 120-volt lamp; whereas for many years we had used the 115 volt standard. That
6264 change, we feel, is highly beneficial, and the change was made without anyone observing it or causing any inconvenience. It results in this, that we can use the same lamp downtown on 120/208 volts system, with perfect satisfaction, that we use out in the radial system. The 115 volt lamp would not have been so good. And we thereby avoiding have two different lamp standards on the same system. That in itself is worth a great deal, not only to us, but to our customers.

Q. Returning to the distribution sub-stations, will you state the general character of construction employed? A. The

distribution sub-stations are so different in size that one cannot describe one type of construction. I can say that the stations run from 100 kilowatts, and that may be a little pole type station, mounted on a steel structure, on a pole out in a country district, with its own automatic regulation --up to a station of, say, 42,500 kilowatts, which represents the latest type of equipment, mounted in a modern brick building with a very nice external appearance.

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In this connection, the architect who furnished the ap- 6266
pearance engineering for that building, got the highest award at a recent exhibition of architectural photographs in some salon, carried on last year in New York, and he showed me the picture with pride.

That is our new Carondelet sub-station, and a very beautiful building.

The larger sub-stations are fully equipped with oil switches, fuses, and the usual paraphernalia that goes with those things, and operate on an automatic reclosing cycle. By that I mean the oil switch, in case the feeder gets into trouble, will open the circuit, reclose immediately—if it is 6267
still in trouble it will reclose again, and try that three times, and if some trouble still persists, it will lock it out and ring an alarm.

The record is that the average trouble record here for the last several years has been a half a case of trouble per feeder per year, or one case of trouble per feeder every two years, 80 per cent. of which reclosed automatically, and resulted in merely a flicker. If you were to double that grade of service, you couldn't tell the difference, it is that

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near perfect, in other words, one flicker every two years on a feeder for 80 per cent. of all of them.

Fellows have wanted to sell me some equipment to improve that service, and I told them that I just didn't see how I could justify it. It probably will be improved some day, but that is pretty good.

—2,687—

Now, in these city sub-stations we were confronted, as all others have been, with the increasing cost of oil switch
6269 equipment, and while some engineers gave consideration to elimination of switches and using reclosing and repeating fuses, to reduce the cost, we looked into that a little, and we decided that the solution of the problem, because we do want to deliver this service at a reasonable cost, was to use the best equipment we could get, but to load it to its capacity. In other words, an analysis of these various systems showed that many of these circuits are only loaded to possibly a fraction of their actual capability, and if we could keep the equipment going at its rated load, we could keep our unit cost per kilowatt down. With that in mind
6270 we found that certain of our metropolitan sub-stations had a sufficiently limited area of distribution that all feeders either were or could be made of approximately the same length. That meant that we didn't have to have such a high degree of regulation, of regulating control, such as 10 per cent. up above or below the standard voltage. We could do with 5 per cent. above or below in these automatic inductions regulators.

The result was that those regulators, which are constructed as 250 amperes, when operated at 10 per cent., or 500 amperes when operated at 5 per cent. regulation, were

reconnected and re-rated from 250 amperes to 500, and supplied entirely adequate regulation.

—2,688—

The switches could already handle that load. So by that simple method we doubled the capacity effectively of several of the downtown stations, and all we had to do was watch that any long feeder be eliminated and connected to some other sub-station. All of these feeders, I should say, are carried out and terminated at the end of a feeder from some other station, so that in the event of any trouble, this one 6272 can be opened up and supplied from some other station. That is in general, a brief description.

The 13 A. C. sub-stations in St. Louis supply 124-4,500 volt 3-phase, 4-wire feeders, 112 of which have induction voltage regulation. The remainder are industrial feeders and the customers do not care for the regulation and get a slight discount for unregulated service.

The area covered within the city is 62 square miles, and the location of the sub-stations is based on an economic study of the location of loads, using a sort of center of gravity method of calculation and we try to determine which one 6273 should be installed next.

We have almost obtained a complement within the city limits, I believe two more is all we will ever need, and then those will have to gradually increase in capacity, but we will have as many as the area requires.

Of these 124-4,500 volt feeders, 106 of them have single phase induction regulators, and 6, located at what we call our Kingsbury sub-station have the regulated bus. By that

—2,689—

I mean, we have a very large device which regulates a bus

off of which a number of feeders are taken as a group. That again is a relatively recent change on our part, as a matter of economy, and no reduction in the grade of service is involved. It simply means, as the load area is developed and new buildings are built, and the density gradually builds up, at the present time we might have sub-station A here, a space, and another sub-station which I will call C here. The intervening sub-station has not yet been built because it wasn't needed.

6275 After all of those sub-stations are in place, when this B sub-station is installed, these feeders which went from A to C will be cut in two, and with half the length and half the load, you can get about four times as good regulation. Finally you get to the area for which this sub-station was really ultimately designed. At that time you can convert the station to what is known as bus regulation, regulate the whole bus up and down together, take these regulators off and move them to a new station, and start the process all over again. By that method we avoid the unnecessary purchase of large numbers of feeder regulators.

6276 You must keep in mind, though, that that couldn't be done in the beginning, because in the beginning you have to supply both long and short feeders, as they go into the different areas.

That is a rather brief and sketchy description, but it

—2,690—

gives you an idea of the extent of this system.

The Examiner: Let us recess until two o'clock.

(Whereupon, at 12:35 o'clock p. m. a recess was taken until 2 o'clock p. m. of the same day.)

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AFTERNOON SESSION.

(Whereupon, at 2:00 o'clock p. m., the hearing reconvened.)

The Examiner: Let us resume, gentlemen. Are you ready?

Mr. Hamilton: Yes, sir.

The Examiner: Go ahead.

Whereupon, STANLEY STOKES resumed the stand and testified further as follows: 6278

Direct Examination by Mr. Hamilton (Continued):

Q. Please continue, Mr. Stokes. A. The 4,000 volt distribution sub-station feeders are, as a general rule and with very few exceptions, operated as single-phase feeders.

I should explain that a little more and state that this is usually referred to as a four-wire system in which the voltage is approximately 2,400 volts between the fourth wire or neutral and any one of the other three wires referred to as phase wires. 6279

This type of feeder starts out from the sub-station with four wires and at various points along the feeders the neutral —that is, the fourth wire—and one of the phase wires, is taken off and goes down some other street and is called a branch.

The two wires so tapped off of the four-wire circuit are

called a single-phase circuit and that is the one that is used to supply the residents.

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These various single-phase circuits are distributed around on the various phase wires so that the load at the sub-station is properly balanced on all three wires—the fourth wire under perfectly balanced load would not carry any current, although in a large part of the country these circuits are switched, all four wires or at least all three wires with a single oil switch.

In St. Louis, and, I believe, one or two other cities of the North American group of properties, the switching is car-
6281 ried out as a single-phase operation.

In other words, we provide a separate switch for each of the three wires. By switching in this manner, we interrupt only one-third of the service which would have been interrupted had we opened all three wires, because the service difficulty is, in almost all cases, confined to one or the other of the wires and rarely involves all three.

By this method of switching, we improve the grade of service over that which could otherwise have been rendered with a material reduction in any possible service outages. I think that is clear. And that the switching of one wire out
6282 of three should result in a material improvement in the services.

Where industrial feeders are supplying current where a large percentage of three-phased motors is involved, those feeders are called three-phase feeders and we switch them all

—2,693—

as a unit.

There have been many developments from time to time that have proved very useful. One, which was first applied, as far as I know, on our own system, was the use of a ground

relay connected between the base of the regulator and the ground.

We were surprised, a few years ago, to learn that the number of regulator fires had been very low on our system compared with some other systems, and, in trying to determine why we were a little more successful, we found that this ground relay which we had used for a number of years, had operated in several instances.

Any one of those instances could have produced a regulator explosion and corresponding fire. Such fires are always 6284
very serious and result in a loss, not only of property, but frequently of life.

There has been a serious case of that kind within the country within the past year and a half.

In conclusion of this particular discussion on distribution sub-stations, I should point out that our general method is to start a sub-station in a new area with two transformers, each terminating two cables from the power plant, each cable coming from a separate bus section in the power plant, so that the failure of a bus section or the failure of a cable will not affect the service to the other transformer at the sub- 6285
station.

—2,694—

These transformers are parallel on the low side and the switching and service from there on has been described.

On the high voltage side, which affects the supply cables, these are 33,000 volt. We then tap one of those cables and carry it to another sub-station.

For example, if we had two transformer stations, we would have three cables. In other words, we always provide each station with one cable which has no taps on it and one

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cable which has one and later two. We do not exceed that.

In that way we have made an economy in the use of our supply cables and in no case, over many years operation, have we ever failed to have the adequate amount of supply. That is based on the theory and probability that a certain number of things would have to occur at the same time and we have, between these various sub-stations, a certain amount of low voltage tie capacity—that is, by tying the low voltage feeders together, a certain amount of load can be supplied
6287 from one station to another and even if we have 50 per cent. or 75 per cent. overload on one transformer during a case of trouble, that will not damage it in the length of time that it takes us to redistribute the load and pick it up from the surrounding sub-stations.

The result is that we attempt in that manner to produce the greatest economy and supply the system without affecting the reliability of the service.

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In the operation of these stations, I should mention there, as part of the description, that we do have to carry out a
6288 thorough system of inspection and testing at all times and insure that all the equipment is in satisfactory operating condition.

Q. Now, how frequently are these inspections conducted? A. Well, it depends on the nature of the sub-station and on the type of service.

For example, in the automatic D. C. stations, the manager is in there some time during the day. He doesn't stay long but he goes over a routine.

We learned that by experience. In the early days of automatic sub-station operation, it was thought that the

automatic equipment should take care of itself and that very infrequent inspection would be all that was required.

Well, that is more or less the case; you can get by that way; but experience has taught us that it is better to make a quick, brief inspection of the fundamentals in that station daily, that one man can cover all of the stations on the system and do that and that by so doing we simply prevent accumulation of a number of minor items which, in the final analysis, may combine to cause the difficulty, so that the automatic stations are checked up in various ways. 6290

For example, we obviously have to keep them clean so that the janitor and helper is in there at very frequent intervals.

—2,696—

He is an old, experienced employee and would observe anything of particular irregularity, such as overheating equipment or smoke.

During the day there is always a man that comes in on a meter reading, removing and replacing some charts. He is instructed to observe certain things and at least once a week a complete check-over is made in the automatic D. C. stations, so that there are not very long intervals in which 6291 nobody is in the sub-station, but the total man-hours of operators in any one station are not very great.

Q. Are your distribution sub-stations of adequate capacity for present loads and for presently anticipated loads? A. I haven't available the exact statistics on the per cent. loading on all of these stations other than those that I have given previously, but, in general, they are entirely adequate and are kept so.

The way this is done is that the annual peak load is taken off of each station for the preceding twelve months and com-

pared with the previous year. We observe the rate of increase of both kilowatts and k. v. a.; as a result of those comparisons, we provide in the annual budget for additions or transfer of load, as the case may be, so that the same reserve factor will apply the following year.

In that way, we never allow the load to increase beyond a specified amount.

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6293 This type of operation requires continuous care and must be kept up because the use of total average load statistics is not sufficient.

The system load can, for example, be constant and yet one sub-station might, for some reason, have an increasing load that year and another one might have decreased due to some peculiarity and it would not be observed in the total.

So you have to observe the variations of load in each of the sub-station areas.

Q. What contribution has the Union Electric Group made to the field of operation of distribution sub-stations? A.

6294 The Union Electric group was one of the early operators of any automatic equipment of this type and, I believe, the most extensive operator in the earlier years.

Naturally, as one pioneers the use of equipment, the pioneers make some improvements and, in our case, it was essential to do so.

We did develop a number of applications. I can mention several. One, the method of operating two or more automatic direct current machines in parallel on the same direct current bus using an automatic load-shifting scheme to make each machine assume its proper share of the total load.

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This is not a particularly elaborate device, but it has been very effective. In the ordinary arrangement there is what is known as an equalizer bus. This little scheme was an

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adaptation of automatic control to insure that the load was divided as required.

Two, we were one of the first people to use bi-metallic element thermostats to protect machines and transformers against overheating.

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Those thermostats and devices were manufactured in our own utility shop and at least one or two of them were later incorporated into commercial devices which, I believe, ultimately became the Minneapolis Regulator control thermostats, but I think the first application of one of these was on one of our transformers.

Today, that sort of thing is standard practice.

The use of pressure wire bus in connection with automatic voltage regulation in direct current automatic substations gives better regulation at all points on the direct current system. A little more clearly explained, that means

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we carry a potential wire, a small wire, from different points on the system, which carries the voltage back to the substation, this particular wire not carrying any appreciable current, so that the voltage back of the station will be the voltage that exists out on the system and, with those wires, we are better informed as to the system voltage and can operate accordingly.

The newer A. C. network systems are following that original idea and providing rather elaborate intelligence transmission circuits to give information not only as to voltage,

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but heating or overheating the transformers and many other

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bits of information that it is desired to have.

Another item was to use automatically operated dampers to cut off the air supply in case of transformer fires or fires on rotary converters.

You see, when you operate attendant sub-stations in which you had men operating, if a fire started in the building, why, you knew that the man had sense enough to either try
6299 to put it out or report it.

Well, the thing was first brought to our attention with a small fire in an automatic station and nobody said anything about it. By the time we got down there, the machine was pretty well damaged, so we incorporated devices to send out an alarm to the main office but, from the experience we had, we realized that that was not enough and at the same time, this device cuts off the air to the machine by automatically closing dampers.

At the same time it takes the machine off and clears it from the circuit. This eliminates the chance for the fire to
6300 gain much headway until someone can get there.

Also, they have CO_2, carbon dioxide, equipment, which will automatically operate to put out fires.

The CO_2 equipment is not our development, nor contribution. Our contribution was the use of the automatically controlled damper. That was quite valuable.

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Another item, use of vacuum tube-voltage regulators to control automatic rotaries and motor generators on the direct current system. Although we did not invent the idea, nor the

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equipment for automatically reclosing an oil switch on outgoing feeders, we were one of the earlier users of large quantities of these switches and found them to be very inaccurate in their operation and undependable.

We were able to improve the reclosing equipment. This was applied successfully to the South Broadway Sub-station as early as 1920.

Q. Are they effective now? A. Oh, yes. Yes, I mean, the people are using those things now without knowing where they are getting them. They are regularly applied on equipment today by manufacturers, but when you are the early user of these equipments you have to do it yourself and when you do, you contribute something to the art.

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In the electrical industry as a whole, I refer to the utility industry primarily, there is a great freedom of interchange of ideas, facilities and information. By that I mean that the utility industry has never attempted, to much extent, to patent and tie up such ideas; particularly among the members of our North American group we interchange such ideas quickly.

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If we develop these things, we tell the others about it the very first time we have any kind of a meeting or get-together.

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If there is anything that is any good, we use it. If it turns out to be no good, we all quit it.

Another development was the adoption of steel barrier walls, an isolated phase arrangement for automatic steel distribution stations, as early as 1925. I was responsible for the design of that particular station and, at the time, it was thought by most engineers and operators that steel would

in some way cause a great deal more trouble, when arcs were started, than concrete which had been used almost universally for bus structures.

We put in this station and had no opportunity to find out for a couple of years whether there was any operating advantage. We knew that there was a major construction advantage and that we would have a better job.

Finally, one day, the manager of this particular property —it happened to be Alton—decided that he would make some
6305 changes in the station arrangement, and in order to be ultra-careful, he moved into the station an external oil switch, set it up, connected it up and made connections preparatory to transferring the circuits through this switch so that he could be doubly sure that nothing would happen.

He had an extra source with which to clear the circuit. He then took his last lead, put it on an insulated stick—what is known as the Johnson Clamp—and clamped it on to the bus. After having gone to all that trouble, he made one rather fundamental error—he forgot to open the oil

6306 switch and when he clamped that thing on, he had a dead short.

Fortunately, he was far enough away from it that it didn't get him and after it cleared, the situation showed that the steel barriers, which had a hole burned in them about an inch and a half in diameter, had withstood the arc and the repair of that was a very simple matter with an ordinary welding torch and the man's life was probably saved, because, had that been concrete, he could not have gotten a complete contact. The arc would have played around quite

a bit, would have flared out and, no doubt, gotten him, because we have had other cases in a matter of such type.

So we were convinced that the steel barrier was satisfactory.

The various companies have adopted that since and we are very favorably inclined toward it, even for major power-plant installations. Several North American properties are using it to advantage.

I have one or two other items which I had intended to mention. 6308

Another item. We helped develop, as well as install, recording devices in automatic closing timers. A timer is a device which determines the interval of delay in a reclosing automatic circuit breaker.

In other words, whether it should reclose immediately or

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wait a few cycles or how it operates. It is controlled by what is called a timer.

In order to obtain a record of what actually took place, we developed a little automatic device to be incorporated in these timers. 6309

It is interesting, when difficulties are cleared, to know what took place, because you learn thereby and can avoid it the next time, and it is impracticable to employ such devices as these automatic oscillographs which we have mentioned where you have such a large number of applications.

Another point, which is not a matter of development of apparatus or pioneering, but a device to adopt a certain practice—in other words, we rather early adopted the reclosing cycle for 4,500 volt circuits at a time when it was generally regarded as more or less impracticable.

6310 We said, "Why wait so long? Why not close them right in and restore the service in most cases?" And the same type of reasoning is being applied now to higher voltage circuits. That is, today, very common.

We set up a test circuit and ran it for some months and found that no damage occurred and that we did improve the service and the device was made to do it on all of the feeders. The use of 33,000 volt cable connecting the transformer at the source with the receiving transformer with no high
6311 voltage switches was adopted many years ago by our company as more or less standard practice.

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We have, to date, found no reason for changing our view. It has a very good feature in its elimination of high short circuits as well as the reduction of high voltage equipment. Any simplification of equipment should result and does in obtaining better service.

Some years ago, there was quite an investigation made by the American Telephone & Telegraph Company as to the major short circuits that had occurred in different cities in
6312 the country and the Commission was sent to St. Louis to investigate us for the simple reason that no complaints had been had by the Telephone Company as a result of high short circuits in our district.

Q. Sent by whom? A. By the American Telephone & Telegraph Company.

The reason for this investigation was that somewhere, I believe, near Chicago, there had been a heavy short circuit in a cable which induced a high potential in a wire leading to the telephone exchange.

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This caused a flash-over in the telephone equipment and which, in itself, would not have been particularly serious, but it frightened the girls and they all ran for the stairway and there were some girls either injured or killed and the telephone company wanted to avoid any possibility of such a recurrence.

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The conclusion that they reached, after having been at St. Louis only a few hours, was that there was no reason why we should have any high short circuits the way our 6314
system was designed and that the explanation was obvious, that we did not tie together a great quantity of equipment and subject all of it to the full capacity of the plants.

This, to some extent, at least, in my opinion, was an additional justification for our methods coming from an independent source.

(Discussion off the record.)

A. (Continuing) Another item of pioneering application was the use of an automatic transfer, 138,000 volt sub-station unattended, fully automatic, including 33,000 volt 6315
automatically regulated bus, and a number of outgoing feeders.

The application of this station, which was installed about two years ago, included a number of original features. I, personally, am not aware of any other station of just this character at that voltage operating fully automatic.

The service obtained from this fully automatic station does supply the outgoing lines with a continuity that could not be obtained by an operator if he were there, because it

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requires a selection and changing in the time of operating switches in a period of less than eight cycles.

That is, in other words, this station has to select between two ways of operating the switch and do it in less than

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eight-sixtieths of a second or it can cause difficulty. No operator could do these things if he were there; he would have to depend on the equipment.

6317 One other item was the use of a directional distance relay for ground fault protection. That, we believe, we were the first to apply on a major system and it required many modifications before it was fully effective.

This relay, in conjunction with some other similar devices, really represents the brains of this automatic station that I have been describing.

Q. And you have already referred, have you not, to the use of ground relays on regulator frames as a means of reducing fire hazards? A. I did refer to that. It is one of those cases where I am not able to show a positive proof

6318 of the extent to which it is valuable, but the negative proof indicates a situation that if we have, in the operation of that device, as much as, say, four or five times—if any one of those five times had functioned the same way, without the device in the regularly stated service—the particular kind of regulator to which I refer was known to be subject to explosion under the conditions in which it was used.

If any one of those occasions has saved a regulator explosion, the device was a real contribution.

—2,707—

Q. I think you have already mentioned, briefly, the proposed change over at Fort Madison, Iowa, from 25 cycles to 60-cycle power. You might just comment on that very briefly, if you will, at this stage. A. 25-cycle service is not as satisfactory for lighting as 60-cycle service, and as I have previously explained practically all of our 25-cycle service is used for industrial applications or street-railway load where lighting, itself, is not involved.

There are one or two relatively small towns in Iowa, which got service in the early years at the time the dam was 6320
constructed, which have the 25-cycle used for general distribution. We are now proceeding to eliminate that and convert it to 60 cycle without any expense to the community.

Q. Now, does this result in better service? A. It results in materially better service to that community but involves some very important expenditures on our part. I would like to describe that situation. We had to put in a 6,000 k. v. a. sub-station, frequency-changer job, rebuild a small plant at a cost of about $152,000 but in addition all of these customers had an abundant supply of appliances which would not operate at 60 cycles. 6321

After having used the greatest care in trying to convert some of the equipment to 60-cycle operation, having made a survey of all of the equipment, we still had something over $200,000 worth in just one small town which we had to furnish. There was no one else to do it. Since it is property

that we aren't going to own, you have to look on it almost as a gift to the customer. I don't see how you can regard it any other way, but it is one of the essential features of

such a change-over. The company undertook that obligation.

The city of Fort Madison, itself, is having its distribution system completely redesigned and the transformer connection and such other changes made as are necessary to provide 60-cycle service in pla[illegible] of 25 cycle.

Q. Turning now to the distribution system, itself, I think you have given previously an overall statement of the number of customers served by the Union Electric group. Are you able to classify those customers in general by the county
6323 in which they are located in order to indicate the density of service in a particular county? A. The particular date as of which I have this information is December 31, 1939. The total number of customers as of that date is 349,096, distributed geographically as follows: City of St. Louis, 202,308; St. Louis County, Missouri, 74,674; St. Charles County, Missouri, 3,633; Franklin County, Missouri, 4,773; Jefferson County, Missouri, 7,794; St. Francois County, Missouri, 5,254; Lakeside Division, Missouri, 286.

Q. Now, that Lakeside Division you just referred to, is that the territory around the Osage plant? A. That is the
6324 territory immediately adjacent to the hydro-electric plant

and the Lake of the Ozarks. That was just a natural outgrowth of the construction of the dam; the residents in the vicinity wanted to obtain electric service and we supplied it.

East St. Louis and Alton Divisions, 39,090; Keokuk Division, 11,284, which totals to the previous figure.

Q. I think you have previously given the distribution of customers by classifications of service, but I don't think you have stated the amount of kilowatt hours taken by the

respective classifications. Are you able to state the number of kilowatt hours so taken by various classifications within your own rate schedules? A. I can subdivide that to about 6 or 8 classifications. The annual sale of kilowatt hours, based on the year ending December 31, 1939 is: residential classification, 309,987,615; commercial classification, 237,653,585; street lighting, 34,102,442. The combined total for those three classifications is 581,743,642.

Other public authorities, 13,548,642; other electric utilities, 401,412,412; railways, that is the street-railway load, 6326
123,506,900; combined total for that group, 538,406,954.

Large industrial classification, 1,020,297,591. The combined total for all classes for the year 1939 is 2,140,509,187.

We are having a very rapid increase in kilowatt-hour generation this year and I believe that that 2,100,000,000 figure has already gone, I think, even beyond 2½ billion at

—2,710—

the rate it is going. If we compare that with the year 1919, at that time, 20 years ago, we had 353,185,617, and in the year 1919 we had 112,484 customers compared with the previous figure of 349,096 for 1939. 6327

Q. At what voltages is electric energy distributed by the group? A. The general lighting service in all areas is distributed to the customer at 120/240 volts. By that we mean that where you have three-wire service the potential between the two outside wires is 240 volts and the potential from either outside wire to the middle or neutral wire is 120 volts.

The larger-sized motors are operated on the 240 volts and the lighting is always on the 120 volts. A small customer will obtain only two-wire service, which gives him 120 volts.

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Now, in the alternating current, secondary network for the high density city service, the voltage is, single phase, 120 volts and, three-phase, 208 volts. Power service in practically all areas is either 240 or 480-volt, 3-phase voltage.

Industrial-power service is delivered at the primary side of the distribution transformer at 4,160, 13,800, 33,000 volts, 60 cycles or 13,200 volts, 25 cycles depending on the particular district in which the service is rendered. That means that the customer has the meter on the high voltage
6329 side of the transformer and distributes his own feeders in the factory or wherever he wants to and does his own transformation. —2,711—

Q. And the street-railway load is at what voltage? A. It is practically uniformly supplied at 13,800 volts, 25 cycles.

Q. Your statistics on sales kilowatt hours indicate a fairly substantial street-lighting load. Can you comment on the extent of the street-lighting distribution? A. The largest user of street lights, the city of St. Louis, owns and operates its own street-lighting system and purchases power from the Union Electric group. This power supplies some 50,300 street
6330 lamps in streets, parks and public places, such as bridges and alleys, all of the power coming from the Union Electric group. The lights and equipment on the municipal bridge, a number of alley-lighting systems and a few private systems in the city are owned and operated completely by the Union Electric group. Outside of the city limits, that is in St. Louis County and various other locations, the Union Electric group owns and operates the street lights, themselves.

The city of Kirkwood, which is a municipality, owns and operates its own street-lighting system and purchases the

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power from the Union Electric group. Clayton, Missouri and Washington, Missouri each own a few lights in their business district and all are supplied from the Power Company System.

Q. By that you mean by the Union Electric group? A. By the Union Electric group.

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In the street-lighting equipment, which is owned and operated by the Union Electric group, there are a total of 65 circuits serving over 6,189 lamps, 1,941 of which are ornamental standards supplied from underground cables. The remaining 4,248 are overhead fixtures supplying aerial circuits. This latter group is about equally divided between bracket-type fixtures and center suspension.

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Most of these circuits are supplied from 6.6 ampere, constant current, street-lighting regulators. Although there are some variations in some cases, the larger lamps are handled from 20-ampere transformers in the ornamental pole itself.

Very few of these operations are carried on with the multiple circuits, only in some remote districts where no street-lighting circuit was available.

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15 of the 65 circuits are controlled by time switches in the various suburban distribution stations, the remaining 50 originate from series regulators installed along the distribution feeder. These are automatically controlled by time switches, the more recent of them using a separate relay and an oil switch, mounted at different locations from the relay.

(Discussion off the record.)

6334 The Witness: The street-lighting circuit, as a rule, causes very little trouble; most of these circuits are equipped with sectionalizing devices. If any trouble or anything happens to the loop, that loop of the circuit is cut out and the rest of it goes on, and it is very

—2,713—

simple to operate and leads to very little difficulty. The service on the street-lighting circuits, as they are designed and maintained today, is very reliable.

6335 Of course, it involves a constant maintenance and cleaning schedule to keep the equipment and the lights in good order. There are, also, some street lights in East St. Louis and Alton, Illinois which are maintained and served by the Union Electric group.

A few of the Whiteway Systems, including 479 standards owned by the cities, are operated on energy purchased from this same Union Electric group. In Keokuk and other Iowa communities there are about 1,530 lamps owned and operated by the Union Electric group. That is about all of the street-lighting equip-

6336 ment.

By Mr. Hamilton:

Q. What type of distribution is employed in the distribution system? A. The distribution system, as previously described, is a 2,300/4,000 volt four-wire radial-type system which, as a rule, is regulated by induction feeder regulators at the sub-station. The urban-type feeders, those in and around the city, are all operated with the single-circuit oil switches as previously described. The rural circuits do not all have the automatic reclosing feature.

In connection with the city and urban-type feeders, St.
—2,714—
Louis is outstanding in its use of heavy conductors; that is, the standard conductors that we have the greatest mileage in are the 4/0 size, whereas some cities depend on a 2/0 as a general rule.

We have done some experimental work in using a 750,000 cm. feeder for the very heavy distribution and are not convinced as yet as to whether it is practicable or not, but we have a number of 500,000 circular mill feeders operating 6338
successfully. This large-sized conductor is only feasible in the areas where the load is quite dense. There is no fundamental difference in design in the suburban-type feeders as distinguished from the city feeders except that the conductor is usually the smaller size. This same comment would apply to rural feeders, but in their case they usually have some form of fuse, frequently an automatic-repeater type and the feeder, itself, is of lighter wire.

Urban and suburban feeders are all closely physically interconnected so that the loss of one feeder can be picked up by adjacent ones. The design of such a system has to con- 6339
template that practice and we have a regular practice of providing from ¼ to ⅓ excess capacity in these feeders so that two or three feeders can always pick up the load of one more. It is equivalent to providing a reserve circuit for not over 3 feeders as a rule and always one reserve circuit for four.

This distribution system has had a rapid increase in its
—2,715—
size. Since 1919 to 1939 there has been a very large percentage increase in a 20-year period. I should like to de-

scribe that with respect to several classifications: Poles, December 31, 1919, there were 41,958 which by 1939 had become 147,116; Miles of distribution wire in 1919 was 8,379, this has increased to 29,757; Single conduit in miles, 810 had increased to 1,306—the conduit, itself, may have more than one duct but in this case I am giving it per duct mile; distribution cable in miles, 552 and 886. The set of the majority of this system is overhead and not underground. Meters have increased from 116,495 to 374,548.

6341 Q. Now, without going into any particular detail and since it represents a very important part of the total enterprise, could you comment briefly on the development of the distribution system to amplify the statistics which you have given? A. I believe that in previous testimony describing the general features of the company that I made some partial reference to the early activities, although I do not believe that I gave but just a mere mention.

I would like to include at this point that St. Louis was one of the oldest pioneering electric users in the country and that the Missouri-Edison Electric Company by 1898 claimed

6342 such outstanding achievements as the operation of alternating current generators parallel, use of induction-feeder regulators, distribution of power by means of an A. C. network and the operation of the world's largest A. C. arc light

—2,716—

station.

Q. Was the company to which you have just referred by name a predecessor of the present Union Electric Company? A. It was a predecessor of the present Union Electric Company of Missouri.

The early system bragged about their load factor of 20 per cent. compared with our present-day load factor of 60 and stated that in their early records that they were active in the promotion of the sale of single-phase motors, so to that extent we are still at it.

There has been a gradual change, as the years go on, as to the standards for the utilization of voltage, that is the voltage at which the lights are operated. In the early years the majority of all lamps sold were sold at from 100 to 110 volts. Then the sales gradually shifted and for many succeeding years and up until the last, possibly, five, the greatest percentage of all lamps sold fell in the 115 volt class. 6344

For the past five years much more than 50 per cent. of all lamps sold,—I think it exceeds 60 per cent. today and possibly a little more,—were sold at 120 volts regularly and this is the voltage at which both utilities and manufacturers would prefer to remain. Our system has been brought in line with this recent standard and the lamps now being sold throughout the Union Electric Company group districts are 120 volts.

This is an important item because you can't afford to have 6345

two or three different types of lamps being sold, because you never can tell where they are going to be used. You can't control their distribution once they leave your hands. Besides, others sell lamps in ordinary stores, consequently, if there were two lamp standards in the district there would be bound to be some of them missupplied. If there were two lamp standards such as 115 volts and 120 volts it would always cause difficulty. We have made very special effort to get our system into the condition where the voltages

6346 *Stanley Stokes—By Respondents—Direct*

delivered on the various distribution circuits are all suitable for the 120 volt-standard lamp. That lamp will operate successfully for two or three volts above that rating and three or four volts below. It will stand more voltage below than above to operate equally well. In other words, the mean voltage for which that lamp is designed is probably 118 volts.

The studies that have to be made to keep a distribution system up to date and in good condition are voluminous. You have to constantly keep at it, study the trend of the
6347 load, the rate of load growth and the load growth by areas and keep your reserve equipment at the proper percentage in all the different areas.

The purchase and installation of electrical equipment does not, of itself, guarantee good service, that is something that we have learned over many years, that you have got to constantly study it and keep it in condition and keep it adequate, keep ahead of your load.

—2,718—

If a transformer is severely overloaded for a number of years and burns up, that is not the transformer's fault, that
6348 is because somebody did not do all of these things which I have indicated and we make every effort to follow continually this type of inspection.

One of the first things you have to know is the voltage condition on your system. For many years a large number of companies depended entirely on complaints from customers, so-called voltage complaints, to determine whether or not their service was satisfactory.

I would like to relate the reason why that is not particularly a good way to do it. We checked up our voltage com-

plaints for a three-year period. We classified them by the nature of the telephone call and the Distribution Department analyzed those figures and seemed to be able to make nothing of them. They seemed to be very inconsistent. I turned the whole group of figures over to one of my assistants who is interested in frequency distribution and probability curves and such matters.

He plotted the record of these complaints in the form of what is known as the frequency curve with what was then a rather surprising result. It was that the greatest number of 6350
complaints came at the point of rated voltage,—in other words, if 115 volts was our standard voltage that we were trying to deliver. After these complaints, you understand, we went out to measure the voltage, checked it up. The largest number of complaints came at the point where the voltage

—2,719—

was the best. This is easily explained if you think just a moment.

If you have 10 customers on an electric system getting 100 volts and 10 customers getting 130 volts and if all 20 of those complain, you wouldn't get anything like the num- 6351
ber of calls that you would from 350,000 customers who think that the voltage is wrong and who call up for some reason. When we get out there we usually locate the reason, but the answer is you are going to get more trouble calls because there are more people. If you have a good system and well-regulated voltage, you are going to have a very high percentage of all the customers on the system there get that voltage that they are supposed to get and if you take 350,000 customers they are going to call up about

6352 *Stanley Stokes—By Respondents—Direct*

something, usually because of some of their interior wiring or their fuses are out and something else is wrong. The management checks that, but it isn't the conclusion that you would arrive at without having checked it up.

(Discussion off the record.)

The Witness: (Continuing) But it is a fact that you can not afford any longer to use customers' calls as an indication of voltage trouble, you have to go and

6353 measure it.

By Mr. Hamilton:

Q. In order to get a comparative idea of the constant additions and changes that are being made in the distribution system, are you able to state the amount of retirements and additions that have been made to the system in a par-

—2,720—

ticular year? A. Yes, I can state the figures very closely for the year 1939. The distribution system additions were $3,700,000 and we retired $1,100,000 for the same year. The

6354 continuous development of additional load and other improvements, particularly highway improvements caused us to spend a very considerable sum of money every year in addition to which we have an arrangement with the city whereby we remove every year five miles of overhead circuits. That should have been independent of whether we need to remove them. We do it anyway and thereby reduce the mileage of overhead lines in the city and we do not add any. The result is that in a very definite number of years all of the overhead system will have been removed from the city streets without any hardship to anyone.

6355

Q. You are talking about St. Louis? A. I am talking about St. Louis city.

The expenditures brought about by civic developments and other requirements amounted to $80,900 in the year 1939, and this figure, or even a larger figure, is applicable almost every year in some manner or other as our share in the civic programs.

Substantial losses are occasioned by the removal or abandonment of existing plants under some of these changes which are particularly applicable in the last two or three years.

6356

—2,721—

For example, we have a Jefferson Memorial Project along the river front of the Mississippi River, in which many square blocks of buildings have been razed, and are to be replaced by some form of memorial. The exact plan has not yet been determined. We had to remove all of our service out of that area, and we don't know what we are going to have to put back, but our estimates indicate that our retirements there are likely to run about—they could run as high as $370,000, and they won't run less than $150,000—and the additions have been variously estimated at $190,000.

6357

Now that is merely one of these city improvement projects. There will always be certain projects of that kind going on every year, and we have to cooperate with the city and keep our service requirements up with their developments.

The Examiner: We will have a recess of five minutes.

6358 *Stanley Stokes—By Respondents—Direct*

(Whereupon, a short recess was taken, after which the hearing was resumed.)

The Examiner: Let us resume.

By Mr. Hamilton:

Q. In designing the distribution system, is it necessary to take into account the occurrence of storms and weather hazards? A. It is. The design of a distribution system—I am referring now particularly to the overhead poles and
6359 wires—does not contemplate storms of tornado proportions. It is impracticable to design for such loading, and as a

—2,722—

result of much study over many years, certain standards have been agreed upon and are published in a circular issued by the Bureau of Standards, known as Bulletin No. 54.

That sets out the types of approved construction for certain areas in which the loading may be either Light, Medium, or Heavy. We are in the Heavy loading district, and carry out the same type of design for these poles, and
6360 with just as great care as we do for our major transmission towers.

The reason for that is obvious, that there are so many of the poles and wires and cross-arms that the total investment is very large, and that you can not afford to leave a big factor of ignorance in your design.

In the early days when poles were very cheap, and the best ones could be had without difficulty, it probably didn't pay so well to spend too much time in design. Some of the early systems were just built. But a little at a time, we found out exactly what poles would do, and the various

timber is tabulated, allowable stresses are all available, and we try to stay within a reasonable factor of safety for what is known as Class B, or Heavy loading.

There is an allowable variation in such design in which you can, under certain conditions, operate your conductor at higher stresses. We prefer to operate and design our conductor for what is known as 50 per cent. of the ultimate strength. This is a conservative design. We could go to 60

—2,723—

per cent. without exceeding the code. 6362

The unequal design of structures in a distribution system, does no one any good. It is a waste of money. If you have a pole that is a great deal stronger than either the crossarm or the wire, or vice versa, you don't gain any increased effective strength out of it, and you do spend money. So the ideal system is one in which the individual structures are carefully engineered and watched. It does not require an unreasonable amount of time, and you should get a design that is consistent.

If you want a stronger pole, design for it, but keep all of the strengths in a consistent relationship to each owner. 6363

Another thing that is of great importance to an electric company is the life that you get out of these poles. That again requires that care be used in the treatment of the poles, that is, as to their impregnation. If you are using yellow pine poles, you have to be careful that you get a high-grade pole in the beginning. That means that you must have specifications on which they are purchased, should have inspectors where they are being treated, and you should see to it that the pole is what it is supposed to be.

6364 *Stanley Stokes—By Respondents—Direct*

If a properly treated pole of good quality—and by good quality I mean a tree that was not grown in a swamp where they grow so fast that there are very few rings per inch, and

—2,724—

the wood has no strength—you can take a piece of fir, which has been grown in very wet soil, and it may only have 5 or 6 rings per inch, and it has all the characteristics of a Nabisco wafer. If you squeeze it in one direction it will crush, particularly if it is wet. That type of timber will not last.

6365 Now then, if you get good timber, and have it properly treated, and if your hardware is carefully selected, you get an effective life out of all proportion to a carelessly done job. That is why continuous attention and intelligent analysis pays well.

We try to do the very best job with that that we can.

The theories of operating electric companies are frequently stressed, and sometimes not enough attention is paid to keeping up and every day applying some of the theories that are enunciated. It is easy to state a theory, but it is hard work, day after day, to adhere to it.

6366 I think the latter is the one that probably has almost as much effect on the ultimate service as the spectacular things that are done occasionally.

The tornados which have visited our areas at various times have been pretty severe, but it is a fact that the service interruption, particularly in the tornado of 1927 with which I am familiar, it tore a swath right through the City

—2,725—

of St. Louis, and it blew in one end of our Venice plant and blew out the other, blew the roof off, blew the east wall,

which was a temporary metal wall, about two miles into an adjoining town, Granite City; and did a number of very peculiar things.

The operator who saw the wind coming up rapidly, ran in under a balcony and the wall fell in on the turbine, which had just been shut down, but he wasn't hurt.

Another operator heard a buzzing noise, a whirring noise, and he thought the rotary was running away, and he ran over to attend to that, and it was under a heavy concrete balcony, and he wasn't hurt. 6368

The noise was due to the running away of a ventilating fan which was in the end wall, and was being driven by the wind, and it threw its blades all to pieces, and one of them cut through an oak rail about an inch thick.

The outdoor substation, which we had just completed about three weeks before that, was completely blown away. One board was driven from a lumber yard across the river half a mile, and penetrated a transformer tank.

Q. I was just going to inquire whether these calamitous circumstances happened with any frequency? A. No, but I wanted to illustrate what really took place with respect to service. 6369

But with all of these factors involved, the number of

—2,726—

people who were unable to obtain service, and who wanted it, were very few. Keep in mind this, that this plant was completely duplicated by others, and the loss of that Venice plant did not affect anyone.

All of our major distributions underground, and the areas on either side of this swath, knew nothing about it,

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and the people within the particular area, which was about a quarter of a mile wide,—and this doesn't go continuously, it left and came back down again in two or three places—they did not require service because the buildings were destroyed or damaged, and we were able to restore the situation to normal with a very moderate loss of service.

I can say, as far as I know, that we received no complaints.

—2,727—

6371 At a time like that, the public does not complain, they understand what is going on and they compliment you on the quickness with which service is restored.

Now, of course, a tornado like that has occurred only twice in St. Louis, once in 1896, which didn't do as much damage, and one in 1927.

We have had major sleet storms, one in 1916 and another in 1924, and we had a 30-hour downpour in 1915. Those all caused more or less trouble, but that represents all of the calamitous storms of those proportions that we have been able to locate as far back as we can find any records, and the

6372 loss of service under those conditions is not severe, and we get all of our crews, accumulate any construction crews, and restore the service as quickly as possible.

In one particular case, I was building the Crystal City transmission line from Cahokia to Crystal City, and I had around 160 men on that job. There was another construction job under way, and this sleet storm of 1924 hit the city. It didn't bother the city very much, but it bothered the outlying territory more. A heavy sleet like that is a matter of 1 degree of temperature, and the city temperature was run-

ning 1 to 1½ degrees above the surrounding territory, and the sleet didn't form heavily in the city.

We put that crew of 160 men from this transmission line job, as assistants to the regular crew, and we cleaned up that

—2,728—

area there in very short order.

So that, in times of emergency we do the very best we can, and we think we do a very creditable job. Those don't occur except at very rare intervals.

6374 Q. Your testimony so far has covered the major classifications of the property of the group. In order to complete the story, however, will you indicate very briefly the nature and extent of the general purpose facilities which the Union Electric group owns and operates? A. In running a system such as that operated by the Union Electric Company of Missouri and its subsidiaries, the Union Electric group, there are required a number of other facilities not specifically engaged in handling electric current.

There are numerous general purpose structures of which the following list which I propose to read, will be an example. This classification refers to offices for general office purposes. 6375

In the City Division, we have 5 offices including a large central office building.

In the St. Louis County Division, we have 5 offices, including their main division office at Webster Groves.

In what we refer to as our outlying divisions, and that comprises the counties surrounding the City of St. Louis and St. Louis County, there are 9 offices. Those are located in

—2,729—

Franklin County, St. Charles County——

6376 *Stanley Stokes—By Respondents—Direct*

Q. (Interposing) How many officers do you have in Franklin County? A. We have four offices in Franklin County, one in St. Charles County, 2 in Jefferson County; 2 in St. Francis County; 1 in St. Charles County—the office in St. Charles County operates for the 2 companies in St. Charles both of which are direct parts of the Union Electric Company of Missouri, and the second one that I mentioned had to do with an office for the St. Charles Electric Light & Power Company, which is one of the Union Electric group.

6377 Another office is at Lakeside, Missouri, for the Lakeside Light & Power Company. That is right on the edge of the county line, I think it is on the edge of Miller County, but I can't say definitely whether Lakeside is in Miller County or just over the line. That doesn't matter and it is very close to that point.

The Union Electric Company of Illinois has three offices, one at Alton, one at East St. Louis, and one at Hartford.

The Iowa-Union Electric Company, and the Mississippi River Power Company, together, have six offices located in the towns of Keokuk, Ft. Madison, and Dallas City, Iowa.

6378 Q. Now, in general, what is the nature of these offices? A. They are offices——

Q. (interposing) Are they general offices? A. General

—2,730—

offices at which the clerical work, billing, accounting and headquarters in the smaller divisions, as well as the points to which the foremen of the operating division would report.

In addition to such office building, we have arrangements made, either in our own offices or in buidlings owned and operated by others, whereby customers can conveniently pay their bills. There are a large number of such pay stations.

6379

I might summarize those to indicate the extent of them. The City Division of the Union Electric group has 69 pay stations. The St. Louis County Division has 42. The outlying divisions have 36.

Q. And those points at which payment can be made are distributed, are they, throughout the territory? A. Distributed in the most convenient manner that we can devise for the benefit of the customers. There are a combined total of 158, if you will add 11 other miscellaneous offices not included in that group.

6380

Q. Now, very briefly, can you state the number of points at which trouble calls are received and repair crews dispatched? A. I have the detailed information on the places at which trouble calls can be received or dispatched, and I can summarize those.

In the City Division, they are all handled from the 12th Street office where we have quite a trouble force available at

—2,731—

all hours.

Q. Is that your main office? A. That is our main office and that is where the main force is concentrated, and where we have the extensive telephone facilities and everything that is required to carry on such work.

6381

The St. Louis County Division handles their trouble calls in a similar manner from their main office at Webster Groves.

The outlying divisions, which are scattered through these various counties, necessarily have to have available a trouble report point for each of the divisions, and that includes 9, 1 at Festus, 1 at Flat River, 1 at Washington, 1 at St.

6382 *Stanley Stokes—By Respondents—Direct*

Charles, 1 at Pacific, Bonne Terre, De Soto, Union, and St. Clair.

A similar point is located at the headquarters office in the town of St. Charles and trouble calls for Lakeside are handled at Lakeside.

The Union Electric Company of Illinois handles them from their three offices at Aiton, East St. Louis, and Hartford.

The Iowa Union Electric handles their calls at 5 points,
6383 largely at Keokuk and Ft. Madison, with a smaller quantity of calls handled at Dallas, Warsaw, and Hamilton. That is a point just across the dam, that is merely a matter of convenience.

In addition to points at which you can pay bills, and from which we dispatch our trouble men, we also have other

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types of facilities, pole yards, for example, which are a very important adjunct to an electric company, where we store all our poles and some other facilities to go with distribution, so you don't have to haul very far to get to any par-
6384 ticular point on the system.

The Union Electric Company of Missouri has 14 locations at which such storage is kept; the Union Electric Company of Illinois has two; and the Iowa Union Electric Company has five, making a total, I believe of 21.

We also have garages. Some of them are rather large, extensive garages.

The Union Electric Company of Missouri has, in the City Division, two garages, one of which has just been completed and is a very modern and up-to-date garage, not only a build-

ing, but yard and other facilities including cranes, material handling devices, and other features, in which we have a combined group of facilities to handle both transportation equipment as well as material.

Q. Just give the total figures on this, if you will? A. For the entire Union Electric group?

Q. Yes. A. There are 13 independent locations at which garages are maintained in the Union Electric Company of Missouri.

6386

The Union Electric Company of Illinois has 3; and the Iowa Union Electric Company and the Mississippi River Power Company have 5.

—2,733—

In addition, we have storerooms, some of which are located at the same points as the garages, and some of which are not, but we are rather proud of our facilities and operations. They are very modern and up-to-date in all of the equipment which is expeditiously required to handle large quantities of material.

6387

There are, for the Union Electric Company of Missouri, 10 such storerooms; for the Union Electric Company of Illinois, 5; and for the Iowa Union Electric and Mississippi River Power Company—5. In addition to that, we have a number of repair shops which total, for the entire group, 4. One of those is a very extensive and complete machine shop with all modern machine tools such as milling machines and welding and cutting equipment. We do a large part of our own repair work in the shop. We have laboratory facilities for testing at 5 locations for the Union Electric Company of Missouri; 1 for the Union Electric Company of Illinois; and

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2 for the Iowa Union Electric Company and Mississippi River Power Company combined.

These laboratories are primarily for meter testing, but along with that type of testing they do various other testing, usually electric. They test rubber gloves and they test electric ranges and test new appliances, and all forms of electric testing. We do not maintain an ordinary mechanical

—2,734—

testing laboratory such as is used for cement work, and so
6389 on, as I explained previously.

Q. These all-purpose facilities are distributed rather generally, are they, throughout the territory? A. Yes, they are generally distributed, but I wouldn't want it thought from that, that they are carelessly distributed. They are in selected locations, selected with great care. You see if we can analyze the number of trips made to and from these yards, after we get several years of experience, we can indicate the possibilities of economy if the locations are changed. We have had occasion to change very few, practically none. There is only one yard that I know of that has been con-
6390 cluded to be in not the best location. This new one will take care of that.

But the location of a pole yard receives careful study and analysis as to where those poles are going to go and how much haul there will be from that point, and we try to pick them so as to produce the minimum amount of haulage and travel.

Q. The location of the pole yards may determine to some extent the speed at which a repair is made? A. It would. We do not know of course at what point repair work of

an emergency type is going to be required. Therefore, we have got to have these yards properly distributed so that no point on the system is excessively removed.

In general, however, I think the greatest economy is ob-

—2,735—

tained in the location where the normal operation, every day, of hundreds of trucks hauling this material, will not produce an excessive mileage.

The light type of trouble work is not entirely related to these pole yards. The trouble man would get to an emer- 6392
gency in a light car anyway. He would be dispatched from a garage. If the service was of some particular major importance, if there had been some severe breakage of a pole, or something like that, that pole would have to be delivered from the nearest point.

Q. Now, very briefly, if you will, the nature and extent of the transportation and construction equipment of the group? A. The transportation equipment is an extensive item in a company of this type, referring to the Electric Company of Missouri, the Union Electric Company of Missouri and the group. We have quite a fleet of construc- 6393
tion and miscellaneous equipment. About all I could do would be to summarize it, the totals, to give an understanding of the magnitude of it. There are 198 passenger cars, 240 trucks, 72 of these large industrial trailers that are operated from a tractor, 6 tractors; 2 portable cranes, and one of those is designed to lift heavy loads and was specifically designed to install and remove and maintain these network transformers which have to be let down through a grating in the sidewalk from a truck located in the street, and

—2,736—

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you cannot afford to obstruct traffic for any length of time in a busy area. That required rather special design.

We also have concrete mixers—6; and 14 of these gasoline driven air compressors on wheels.

The aggregate cost of this equipment is considerably over $600,000.

We selected the equipment with as much care as we can, keeping in mind all the time the application for which it is intended. We do have a lot of street and paving work to do,
6395 and concrete breaking and breaking of pavement, to get into conduit lines, and economy in that work is very essential, and machinery helps materially to do it.

Q. The list which you have just given includes trouble cars, does it? A. Yes, that includes—well, I listed passenger cars, but I am not quite sure whether that figures includes trouble cars or not. The trouble cars, as used by the individual trouble men, are passenger cars. I believe that that figure should include them.

Q. Do you mean "should" or does? A. Well, I can't say for certain whether it does or not but I can look that up if it
6396 is of any importance.

Q. Now, turning to the operations of the system, will you state the base load generating plants in the system and relate

—2,737—

the functions of the other plants to the operating of the base load plants? A. The answer to your question requires that I again mention the same power plants that I have previously mentioned from the standpoint of property, but with the intention now of stating something about how they operate.

The Union Electric group has this interconnected generator system consisting of the 6 plants, 4 steam and 2 hydro,

 6397

and the plant which is depended on for the higher load factor work is Cahokia, where the better equipment is available in quantity. In combination with the hydro plants, we assign to the different units in the different stations a load which they can carry most economically at the time.

The hydro plants in this system are constantly varying their output, and it requires a very close detailed attention to keep the steam plants fitted in with the requirements of the load, and at the same time utilize the hydro power insofar as possible. 6398

The operation of such a system is much more complicated than that of a straight steam system, and is somewhat difficult to explain in a limited time.

The first situation which we encounter in attempting to set loadings is that we have to find out what is the dependable capacity for different types of service of each of these plants.

The drainage area of Osage, for example, is not the same

as that for Keokuk. Therefore, there should be and is some diversity between these two properties. The Keokuk plant 6399 has limited storage, and that has to be kept in mind, and if there is any considerable amount of stream flow, that has to be used.

Osage has storage, but it has to be scheduled and used effectively to get the most good out of it.

The basis of our operation may be expressed by stating that as a result of many calculations and experience to date which is about 8 years, we are confident that we can safely assign, as a combination rating for Osage and Keokuk, the

6400 *Stanley Stokes—By Respondents—Direct*

ability to carry 200,000 kilowatts of our system peak for the entire period of the winter peak.

That is, not 24 hours a day, but to cut 200,000 kilowatts off of that peak each day for as many days as required.

—2,739—

The individual ratings of those plants, of course, are at various times much larger than that. You can get from 130 to 160 thousand kilowatts out of the Osage, and 135,000 out of the Keokuk plant.

6401 Now to illustrate the actual method of operation, Keokuk never gets below, in an ordinary year, say, 70,000 kilowatts. Any reduction below that is of very rare occurrence. That being the case, that 70,000 kilowatts of water power energy would either go over the dam or we must make use of it. So it is placed first, it carries what I would call the base load, 24 hours a day.

Then the steam plant, the best unit available at the time, probably 75,000 in our case, would be placed next, and operated at its maximum efficiency point.

Then the next less efficient unit, and so on until we
6402 finally get to the reserve plants, some of which may be actually shut down cold.

In certain years, Rivermines will not be operated at all. In other years it will be operated for a very short time.

Now that is the type of operation for which the Osage plant is primarily designed.

On the other hand, suppose that instead of having a very lean or dry year, and what we call a low send-out for water power, suppose we have a very good year. Also let us assume

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6403

that we may have just installed a new large unit such as the plant which is now under construction. Under those conditions we would not have to reserve Osage specifically to cut this winter peak, we could use it any way we wanted to for that year.

And what we do do is to try to schedule the operations in such a way as to get the greatest number of kilowatts, kilowatt-hours, out of that plant in that year.

In the years just before such a unit is to be installed, the greatest value that Osage can be to us is to make a firm 6404
cut-off of this 200,000 kilowatts, even if we have to sacrifice a few kilowatt hours. The result is that in making that firm winter cut-off, we schedule the level of the reservoir by what is known as a rule curve. We have checked the rainfall for 60 years, we have checked the records the years the plant has been running, and we know what the minimum rainfall we can count on for the next certain number of weeks is.

It may be greater than that and probably will be, but that is the least.

Now, in pulling down the reservoir, you have got to watch two factors. One, you must not get it so low that you can't 6405
get it back full ahead of its winter peak, even though you have got the lowest rainfall on record. So whenever you get down to the point at which minimum rainfall would

just bring it up, th you quit drawing it down and start running your lower efficiency steam plants.

On the other hand, if you pull it down too far, then, even in an ordinary year where you are not concerned about the winter peak, in trying to get more rainfall in the reservoir

you may overdo the job and have the effect of operating your storage reservoir at a lower head than could otherwise have been done.

So it is really a very nice engineering operation and calculation day by day to watch this operation and see to it that the plants are scheduled to get the greatest good not only from the equipment, so as to keep fixed charges at a minimum, but from the hydro plant to get all the kilowatt hours you can, and from the steam plants to be sure you are
6407 operating the most efficient unit for the particular work at the time.

The usual way of expressing this operation is to state that a duration curve is constructed which can be described as a curve in which the ordinate is kilowatts, and the abscissa is hours per year up from zero to 8,760, or the total year.

The product of hours, times kilowatts, is kilowatt-hours, or energy. The result is that the area under this curve represents energy, and any particular height on the curve represents the kilowatts at that point, and the length over

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6408 to the right of the curve indicates the number of hours per year at which that particular load is used.

For example, suppose that the system peak for the winter of 1940 were to be 500 or 515 thousand kilowatts. If we took 200,000 kilowatts off of that, that would leave us 315,000 kilowatts. Now we would examine this curve at the height of 315,000 from the bottom, and go horizontally over until we intersected the curve, and that would tell us how many hours that 315,000 kilowatts would have to be carried.

At the top of the curve we know that it is just one hour, and working out each step there, we can determine the num-

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ber of kilowatt-hours that it would take to cut 200,000 kilowatts off of our 1940 winter peak.

Then we analyze the storage of the reservoir and we find that the reservoir just has enough kilowatt hours to do that, including the rainfall that will be acquired, even on a minimum year.

All of these calculations have to be made in advance. They are corrected as fast as the actual figures are available, but we have to assume in these operations that each estimate ahead is based on a minimum year, and then correct it as quickly as the actual figures are available.

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By that process of cut and try, each day, and correcting a preliminary estimate and finally getting it pretty accurate,

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we schedule the operation of both the hydro and steam plants in conjunction with each other, so that the hydro cuts this firm peak and at all other times, when it has excess water, we use it for kilowatt hours, and shut down our big units for overhaul during the period of flush water, and by that I mean during the spring months, about three months.

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It is possible to overhaul two of the largest units on the system during the period of the plentiful water power in the spring. At the present time we have occasion to only overhaul one, because we only have two of those units, and we alternate them, each one every other year.

If we were to acquire another large unit of equivalent size, or even slightly larger, there would be certain years in which we would want to overhaul two large units in the same year, and we could schedule both of them in that period.

During the valley of the load, after the summer peak is over, there is opportunity to overhaul one of our next largest units, such as the 50,000. By that method we operate with a satisfactory and safe reserve, and still try to keep the economy in mind at all times.

The hydro plants provide marvelous, quick-starting reserve, whereas, these large steam units require several hours to bring them up to load from cold, because we do not dare

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6413 heat them up quickly.

So that at any time at which we were holding the reservoir full, and not using very many kilowatt hours, intending to cut this winter peak each day, we always have available this reservoir with a capacity of from 135,000 to 150,000 kilowatts for emergency.

So during that period, if we were to lose a large unit without notice, the hydro plant, particularly Osage, would pick up the load and carry it until such time as we could make other arrangements.

To that extent it provides a type of service that a steam

6414 plant cannot provide.

Q. Do navigation requirements enter into the method of operation of the Keokuk and Osage projects? A. The navigation requirements are very intimately connected with Keokuk operations. There is extensive navigation on the Mississippi River. There is no actual real navigation on the Osage River, and we are required to let through a certain amount of minimum stream flow, but it has very little effect on the operations of the plant. We probably would do almost that anyway.

Q. You might state what those requirements are, and what bearing they have on the operation of the plants? A. Well, the Keokuk plant has to avoid radical or rapid fluctuations of the river. We must not do anything at the plant

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which will interfere with the boats.

For example, if a boat is tied up to a dock in the evening, and if we were to suddenly let through a large amount of water, trying to carry a little short-time peak, the river would rise appreciably, and the boat might be damaged. A 6416
boat would be affected really worse if we were already letting through a good deal of water, and were to shut it off. Then it might ground.

The result is that we have to operate with great care so that nothing will interfere with the river, and we are subject to the requirements of the War Department Engineers, who control river operations.

I may say that they are becoming a little more rigid in their requirements lately, which is brought about by the operation of this series of dams that have been constructed north of Keokuk to provide this navigation channel to Min- 6417
neapolis, and we haven't been able to tell yet just what effect that will have, numerically, but we think that those regulations will somewhat reduce our possible output at Keokuk, but it will not be serious.

Q. Now you have spoken of various estimates that have to be made of rainfall and the effect of weather conditions on storage capacity of the hydro-electric plants. Who makes these estimates? A. What individual?

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Q. What department or individual? A. The hydraulic department. The individual is this same gentleman, Mr. Albion Davis, of whom I spoke previously with regard to his contributions to the art of turbine governing. Mr. Davis is the chief hydraulic engineer for the company, and was originally located at Keokuk for many years.

Q. Are these studies extensive and are they continuing? A. They are, they are quite involved. I attempted to explain only just the high spots here, and the simplest part of the
6419 calculations, and indicate the nature of the problem, but still you could not possibly go into all the details in a conversation or in any kind of testimony.

I have a few statistics here, one or two of which may have been given, but I would like to mention them for the system as a whole.

In 1939, the net generation was 2,468,395,631 kilowatt hours. The peak load was 476,000 kilowatts, but we have since attained a load of 489,000 kilowatts, on July 9, 1940. The load was increased from 476,000 to 489,000 in 7 months, or a little over 6 months. The increase in the use of kilowatt
6420 hours during the current year is greater than the increase in demand. Such studies as I have been able to make of this feature indicate to me that there are a number of industries

already operating on the night shift, as a part of the National Defense program. There is no other explanation for it.

We have examined all the factors that are available to us, and that is our conclusion.

Q. So that you are picking up load at off-peak times during the day? A. That is right. We made an analysis of our

minimums, rather than maximums; in other words, analyzed the highest night loads in the middle of the night, and we can see that those have come up appreciably, and although we don't have any specific knowledge of who these customers are, or just what is going on, I expect we could attribute quite a bit of that to possibly the shoe industry. The International Shoe Company has received a major contract already.

The coal burned during the year was 1,123,537 tons. That is a good many tons a day. At the same time, we must always 6422
keep in mind that in a normal year, normal hydro year, roughly speaking one-half of the kilowatt hours is generated by water power, and that has a major effect on the operation of our system, our steam system, and on the type of equipment that we can use; and you must always keep that point in mind in any comparison of the Union Electric Group with any property which is operated as a straight steam system.

The hydro operation has a very marked effect on the

system as a whole. Obviously, hydro kilowatt hours, having already acquired the plants, cost very little. In other words, 6423
the total annual operating expense of a hydro system is practically constant, year-in and year-out, and amounts to less than .2 mills; in other words, it is less than 1/10th of the production cost of a steam plant.

So that at any time we can get a large amount of water power, our total average cost of production per kilowatt hour goes down. The efficiency with which we produce it may go up. The totals go down, but the unit costs go up, so those things have to be taken into account.

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Colloquy

Mr. Hamilton: I think this represents a good breaking point, Mr. Examiner.

The Examiner: All right, we will recess until tomorrow morning at 10 o'clock.

(Whereupon, at 4:35 o'clock p. m., a recess was taken until 10 o'clock a. m., Thursday, October 24, 1940.)

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BEFORE THE

Securities and Exchange Commission

Docket No. 59-10

IN THE MATTER

of

THE NORTH AMERICAN COMPANY, *et al.*

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Hearing Room 622,
Securities and Exchange Commission Bldg.,
Washington, D. C.,
Thursday, October 24, 1940.

Met, pursuant to adjournment, at 10 o'clock a.m.

Before: W. W. SWIFT, *Trial Examiner.*

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Appearances:

S. PEARCE BROWNING, JR., and CHARLES S. HAMILTON, JR., of Sullivan & Cromwell, 48 Wall Street, New York City, Attorneys for the Respondents.

RALPH C. BINFORD and HERMAN ODELL, Attorneys for the Securities and Exchange Commission.

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6430 *Stanley Stokes—By Respondents—Direct*

PROCEEDINGS.

The Examiner: The hearing will come to order.

Mr. Hamilton: Mr. Stokes, will you resume the stand?

Whereupon, STANLEY STOKES resumed the stand and testified further as follows:

6431 *Direct Examination by Mr. Hamilton (Continued):*

Q. Mr. Stokes, you were describing the operations of the generating system. Will you continue with that statement? A. We have mentioned that the bulk of our steam power generation is produced on the Illinois side of the river at St. Louis. There is a very good reason for the location of the Cahokia steam generating station at that point. There is a difference in freight rates on coal which today amounts to 30 cents a ton, as between the West and the East side of the river. That difference has varied. It used to be 25 cents a ton for a good while, but in the last year or so, has been
6432 made 30 cents. That is known as a "bridge arbitrary". It is simply a difference in the freight rates from the coal fields to those two points. That makes it much cheaper and much more economical to produce the power on the east side of the river. The transmission of power under the river by submarine cables is more economical than hauling the coal across the river when consideration is given to the fact that we only have to transmit about half of it, half of it already being used

on the east side.

Coal in the St. Louis district and the Southern Illinois field has a low fusing point ash, and a relatively high sulphur content, which has necessitated much experimentation to avoid slagging of boilers. The bigger the furnace becomes, the higher the temperature of the gases leaving the furnace, if the pounds of coal per cubic foot of furnace volume are kept the same. That is more or less obvious, because in a large furnace the walls of the furnace do not represent as big a percentage of the volume as they would in a small
6434 furnace. That is to say, the cubical content varies as the cube of the lineal dimension, and the area of the wall goes up as the square of the lineal dimension, and you don't have as many square feet of cooling surface in the walls per cubic foot of volume of furnace as the furnace gets larger.

The result is that you reach the point, unless care is exercised, at which, with low fusing point ash, the tendency is for the ash to stick to the boiler tubes, to coat them, and that causes trouble.

There is also a tendency, if you try to crowd the furnaces too rapidly and burn too much coal per cubic foot of furnace
6435 volume, to cause the ashes to slag and become molten, and when that cools it is difficult to remove.

The result is that we have to give different treatment

to boiler design and operation in the Middle West than is done in the Eastern part of the country with different coal.

All of those things are learned by experience, and we are not obtaining very satisfactory operation, whereas, when Cahokia was first started, we had many difficulties in burning that coal successfully in the big units.

The circulating water for the condensers, which is taken from the Mississippi River—and incidentally, we pump every day several times what the City of St. Louis uses in their waterworks system, to cool the condensers—this water contains much suspended matter, particularly during flood periods when it would be full of fine silt as well as other things which would be too fine to be taken out by the screens, but which would still affect the condensers.

As a result of that we evaporate all of the make-up water
6437 which is added to the boilers, so that only distilled water is used in the plant. That, of course, avoids many other difficulties which would be involved if raw water were treated and used.

The situation over at the Ashley Street plant in that same connection is quite different because of the steam heating requirements there, where as much as 600,000 pounds an hour, under peak conditions, may leave the plant and not return. It goes out to the steam-heating customers, and they don't return it to us, so we have to make that up by very elaborate

6438 methods.

Now in the summertime we have rather unusually high water temperatures. This is conducive to the growth of algae, which is an animal growth and which forms on condenser tubes. We had to give careful study, through many years, as to the most practical and economical methods of combatting that difficulty. We chlorinate the water to inhibit the growth, and clean the condensers regularly and dry them out. The drying of the tubes by means of blowers very successfully kills the algae.

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Q. Will you state for us now the advantages to the Union Electric Group of having a combined hydro-electric and steam plant generating system? A. There are many advantages in a combined steam and hydro system. For example, it is known that the levees along the Mississippi River north of St. Louis, as now constructed, are probably not at all safe for the highest water recorded, which was 1884 high water. No such level has approximated this figure since, but there is no reason to believe but that at some day it can again be reached just as in the Ohio River Flood. We made quite 6440
a study of the levee situation, and decided that we would have to, in so far as possible, protect ourselves, and we spent about $300,000 on building a levee of our own around the plant property.

However, if the regular Mississippi River levees were to break anywhere above there, that whole area would be flooded in the East St. Louis district, and we would be

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unable to get coal in to the plant for some time. We think that we can keep the water out of the plant. We have made very special provisions to bulkhead every opening, and the 6441
levees and walls, and other protective features are carried up above this 1884 high water elevation.

At the same time, the district itself would be unable to use power in any extensive amount for a considerable period, that is, the part that would be flooded contains a large amount of power-using industries. The result is that with our Keokuk and Osage plants, we would have no difficulty in supplying all the power that could be used during such an emergency, most of which would be used on the west side of the river.

So from that standpoint, we have a certain factor of safety which would be difficult to obtain in any other way.

As another point, in the tornado to which I referred previously, and which put out of commission our Venice plant for a period of two or three months, that tornado very narrowly missed a power plant—or a similar tornado, it wasn't the same one, but one which was just as destructive—barely missed a power plant to the south of us. It didn't belong to us, but it illustrated what could happen.

6443 And with this hydro power available, we feel very much more comfortable than we would if we didn't have it. Now we don't believe that a tornado would destroy the Cahokia

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station so that it could not be rebuilt in a very reasonable length of time, but it would be possible for a tornado to tear down the stacks. Now after such conditions, with all of our interconnected facilities, we could continue operation without the thing becoming of calamitous proportions, while the stacks could be temporarily repaired.

6444 Without the reserve, I don't know just what we would do.

The next feature that I would like to mention is the fact that it was clearly demonstrated to us during the other World War, when coal became prohibitively expensive, and it was difficult to obtain cars to get it to the plant, the cars were all in priority service of some kind or other—and during that period, the Keokuk plant produced each year apparently its all-time high up to that point. In other words, we had very plentiful water power from Keokuk all during the period, and at the same cost, and no increase, at which it had already been supplied.

So that the water power, whose operating costs are constant and very small, has a certain stability. They do not vary with conditions. Let's take the present situation today. We may be going into a period of rapidly rising costs. Coal will increase in price, and coal represents a large percentage of our total production cost. Both hydro plants will continue to do the same as in the past, and we hope that we might be fortunate enough under those conditions to run

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into several years of good water power, just as we have been 6446
through in the last four years. Now all those factors make the hydro-steam combination act like a balance wheel one to the other, and the combination has a number of features that are not at all apparent from a casual viewpoint.

There is a certain degree of stability there. If costs of equipment are to change rapidly, increase, the hydro plants require no change. The river flow is constant, and we never have to expand them, and they have such long life and very low fixed charges; it is necessary to go through the calculations in order to notice the difference in the annual fixed charges on a hydro plant, in a location where there is prac- 6447
tically no obsolescence, as compared with a steam plant where both depreciation and obsolescence are increased.

I might explain that obsolescence feature. Keokuk, which was installed in 1912 and started in operation in 1913, has had no occasion to change any switches or other devices because they were inadequate to handle the short-circuits or the currents. It is perfectly understandable, because the river itself is still producing the same amount of power and we aren't adding to it.

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At Cahokia, or any of the city plants, the rapid addition of additional units, sections and features, cause the earlier equipment in many cases to become obsolete, and it has to be

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removed before it is worn out.

The production costs of hydro-electric power are substantially a constant quantity, and amount to less than .2 mills per kilowatt hour. In other words, once you have bought a hydro plant and have it installed, the cost is very little to
6449 run it. And that cost is just the fixed charges for a certain fixed operating crew, transmission line maintenance, and other items, which, in comparison with the production costs of steam power, is almost negligible.

The main cost, of course, in the hydro plant is the investment part, that is, the fixed charges on the investment.

In examining the costs of our total plant output, we have to keep that in mind. For example, if steam generation is 30 per cent. of the total generation, then the unit cost of production for the system will be roughly 30 per cent. of the unit cost of the steam production. Likewise, if steam pro-
6450 duction were 60 per cent. of the total, then the unit system production cost would be roughly 60 per cent. of the unit cost of steam generation.

In other words, the amount that the hydro adds to the total cost is so little, that if you were to produce 50 per cent of the output by water power, and 50 per cent. by steam, your enumerator would simply be the total cost of steam production, the other would be negligible. In the denominator you would have twice as many kilowatt hours, so our total

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system costs would be about half.

The hydro plants have been discussed as producing a reliable annual peak cut-off of 200,000 kilowatts as of today, with a possibility of extending this to 225,000 kilowatts by the time our load reaches 600,000 kilowatts.

I should like to mention that the highest all-time combined output of those two hydro plants has been 278,950 kilowatts. I mention that because I want to show that our 200,000 kilowatt figure which we put in these reports as dependable combined capacity of these plants, is materially less than their highest record. 6452

But it is as high a figure as we believe is conservative and can be depended upon through the winter peak.

During the high-water season, as we have previously pointed out, we take the base load of the system on the hydro plant, and oftentimes all of the units are operated, as referred to in the operating unit as "against the stop". In other words, if you can set a water wheel at its most efficient operating point, and lock it there, fix its governor so it won't change, and let the steam system do the governing, then you have the maximum efficiency in your hydro plant, and get the most out of the water. 6453

At these times we have customers, at Keokuk primarily, who can take power all the way from nothing up to 30,000 kilowatts. These are known as dump power customers, and the sale of this power we refer to as excess power. It is sold

to these customers, people like du Pont and others, who make a product such as 50 per cent. ferro-silicate, which can be stored and can be held profitably until the market requires its sale, and they take advantage of the low cost at which we can sell this type of product, to produce the ferro-silicate.

We are not required to guarantee the delivery of that power, and it therefore acts just like a reserve plant as far as we are concerned. We can discontinue it at will, or upon relatively short notice.

So that that feature is an interesting part of the operation of a hydro plant, that there is a good deal of water power which is not continuously available and for which you do not care to make a continuous investment, but which returns both to the consumer and to ourselves a very nice
6455 and profitable return. The customer return is in terms of very low cost power, and ours is because we do not have to charge against that type of power any fixed charges.

There is another class of service which has somewhat those same characteristics, in which we have sold a very limited amount, known as what we call our 60-cycle reserve service. That is not an important item, about 5,000 kilowatts of it; and it is the type of load where the customer can either discontinue for a while, or has another source of

supply, and on moderate notice we can discontinue his load
6456 in the event we need the capacity for our regular firm customers.

The frequency changers which have been referred to previously as being very economical and saving considerable water power, actually used or converted 100 million kilowatt hours a year for over five years during the depression, which would otherwise have been unusable and would have been wasted. That was the basis of the statement which I made, that they had saved roughly $2,000,000. I believe that valuates this energy at about 4 mills.

During the low water season, we utilize the hydro generation in combination with the steam to reduce the steam plant operating costs. This is without reference to the detail of how we do it, we fit it in carefully at the place where it will produce the greatest economy.

The spinning reserve benefits in quick starting were mentioned with respect to Osage previously. That is to say, we pointed out the fact that you can pick up load in less than three minutes. We did not mention, however, that the use of this spinning reserve costs about half what it does to keep 6458
a steam turbine in reserve. It is economical to that extent, that it will not only start quicker, but it actually is very much cheaper to handle than the turbine, when carried for reserve operation. You cannot run a steam turbine at zero

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load, you have got to have a little load on it, and that means that you are generating kilowatt hours at lower efficiency under those conditions.

Q. Now where is control of the generating system centralized? A. Control of the plants which have been described, and all of the lines and so on, for the Union Electric Group, 6459
is centralized in a system load dispatcher, and his group of system operators. The whole system is handled exactly as it would be if it were just one company, and the system operator or chief load dispatcher has full authority to see that the plants are operated in accordance with his instructions, and also his operators handle the switching of lines when it becomes necessary.

Q. Where is the chief load dispatcher located? A. He is located in our 12th Street Office Building. We have a

large downtown office building in which the top floor is given over largely to the load dispatching facilities. We have rather expensive control boards, and elaborate facilities for communication. We have what are known as Selsyn equipment. That is an interesting type of control in which the position of any kind of a rotating device at one location can be transferred to another. It isn't practical to transfer metered circuits several miles, as there would be losses, and there would be lots of reasons why you couldn't do it. But

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we can transfer the position of a meter hand at Cahokia to the same position on a board at 12th Street, by what is known as the Selsyn control.

It is a relatively simple device. If you take a three-phase motor and supply the fields from a common source, and these two motors are located at remote points, you can arrange those so that they will take the same position exactly. If one is moved half-way around, the other moves with it. These motors do not rotate continuously, but they are designed and built just like a motor, and if we turn this one, the other

6462 will turn exactly with it. If this is regarded as a master control, I can have as many as I want of these others at different locations, and each will take the same position.

So that if that little device is attached to a hand at Cahokia, and is made to follow the meters over there, with the meter scale and a device that looks like a meter over at the 12th Street office, the operator can read exactly the same thing.

If the meter at Cahokia were to say 100,000 kilowatts, this one at 12th Street reads 100,000, and the load dispatcher can tell what the loads are at some of the key points.

That is only one of the features. We have, of course, the customary board with its mimic buses, and little lights, and relays, and all other things that go with an indicating system so that the load dispatcher and his operators can have

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full information at all times as to what position all major switches on the system are in; also as to what turbines are on load, and approximately the loads handled by those; and exactly the loads taken by the plant as a whole.

We do not remove from the manager of the Cahokia plant 6464
the responsibility for keeping his stuff in regular operation, and the load dispatcher in a system of this type does not attempt to take over the detailed operation of a plant. In fact, the less he knows about it, the better off he is, because the man best equipped to take the responsibility for the thing is the man at the plant. All the load dispatcher needs to know is information which is essential to coordinating system operations. In general, the load dispatcher is really a man who schedules and predetermines the plants, wheels, and other apparatus which is to be used a few hours or a day later, and the system operators are those who carry out 6465
the detail operating.

The hydraulic engineer, for example, gets forecasts of the rain in the reservoir, the rainfall, and we have weather report stations up the river, and we have telephone communication with those stations. We have men available to check all of the hydrographic features, and all that information is accumulated in the central office, and with the calculations to which I have previously referred, this hydraulic engineer gives to the system load dispatcher the basic information as

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6466 to what the hydro conditions are expected to be the next day, for example.

With that, the load dispatcher determines the loads that he will have to carry on his steam plants. In addition to that, we subscribed to an experimental form of weather service to try to even amplify the amount of information available as to the weather. I don't believe that that in itself was so very successful, we didn't think it would be, but we didn't want to overlook any opportunities. But it did stimu-

6467 late the Weather Bureau itself, who I believe didn't particularly enjoy private groups going into the weather forecasting business, and they set up a four-day forecast, four or five days ahead.

We have been getting it, on the regular weather maps, about one day ahead, but they forecast the thing four days ahead continuously, and they have only been doing this about four or five months, and so far they have been marvelously perfect. They have done better than the private service, and if they continue to be as good as they are now, it will be of great help to us.

6468 So that the load dispatching is primarily one of knowing what the hydro plants are going to do, scheduling them in combination with the system, setting up the requirements for each machine on the system, so that the ultimate end is the most economical over-all combination that we can produce, and conditions change from day to day, and it re-

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quires continuous attention. You can't set it up and go away and let it alone.

The other predictions, which I should say are a part of this thing, are the load predictions. That is, I have referred

to the other predictions, and I should also mention that it is also necessary to predict the load itself, what we are trying to handle.

We occasionally get upset on some of those predictions because of an extremely dark day, due to smoke or fog that was not contemplated, and which will increase the load. But in general, from previous experience we know that if the load was so-and-so last Tuesday, that next Tuesday it will be similar; although Wednesday it will be different; and from our knowledge of the characteristics of the load 6470 each day, they are able to set this thing up with surprising accuracy.

The load dispatcher predicts these things, I think, with more or less uncanny accuracy. That is just a matter of years of experience.

Q. How is the flow of reactive power controlled in the system? A. In order to answer that question, I should make as simple an explanation as I can of what is meant by reactive power. Briefly stated, when a motor which is driving a mechanical load is supplied over a transmission line from a power plant, it has to receive two components of power, 6471

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one what we call the kilowatt component, which provides the mechanical force to drive the motor and do the work; the other, the reactive or kilovar component, which provides the magnetizing power to provide that all of the magnetic circuits of the equipment are properly excited or energized.

This reactive power has a more definite effect on voltage drop around the system over apparatus through transformers than the kilowatt load itself. The kilowatt com-

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ponent is affected largely by merely the resistance of the circuit, whereas the reactive component is affected by the inductance of the circuit.

In the early days of plant operation, little attention was paid to reactive power. No metering equipment was provided, and all we talked about were kilowatts. Today we have produced a means of metering the reactive power in a manner equally accurate with that of the kilowatt power. We have our kilowatt meters and our reactive meters,
6473 separate instruments.

This measuring of reactive power in itself is not new, it has been done for years, but the problem always seemed to arise, when one plant operator was trying to get another plant operator to pick up reactive, as he would say, ask him to take more of the reactive load on his plant, change the excitation of his machines, for example, in order to control the voltage, you do raise the voltage at one point and lower

—2,767—

it at the other, by simply shifting the flow of reactive power between the two plants.

6474 In attempting to do that, there always seemed to be a misunderstanding as to what direction of flow we were talking about. The thing is purely arbitrary and we have, as a result of analyzing the definitions and setting up some arbitrary directions, and by changing directions of about 25 per cent. of the reactive meters on the system, we have, a few years ago, a standard direction of reactive flow, and there is no longer any question in the minds of the operators what they are talking about, and we carry out the dispatching of reactive power just exactly the same as we do the

kilowatt power, and to that extent I think we are somewhat original in this method.

We have found it to be extremely important, and we have the facilities to do it, we put them in. By that I mean, if you did not have load ratio control transformers, whose transformation ratio can be varied while they are operating under load, you couldn't do very much about it anyway. All you could do would be to vary the excitation of the fields of your generators.

On our system, all of the major points are equipped with 6476
these devices, and in addition we have condensers operating at Page Avenue sub-station, Rivermines sub-station, we have the corrective capacity of the generators in each of the steam

plants, and with those facilities we are able to maintain satisfactory voltage and not have an excessive flow of amperes, which is just wasting energy and making losses throughout the system. And it is a real pleasure to see the thing work if you have put in so many years gradually approaching this goal.

The recently installed generators are all provided with at 6477
least a k. v. a. capacity in which we can handle .8 power factor loads, without overloading the generator; in other words, they are rated as .8 power factor generators.

The voltage control which I speak of was largely directed towards the transfer of power and reactive k. v. a. between plants. In addition to this, of course, any system operating long transmission lines—and we have a number—requires that the lines themselves be controlled with synchronous condensers. There is nothing novel in this at all, and I make no

6478 claims for anything original on that, but the facts are that we do it, and do a good job of it, and we did one thing which was somewhat original, and that was the combining, in those frequency changers at Page Avenue, of the capacity to permit them to act as large condensers, and by that simple means we saved the operation of a complete duplicate set of machines, because those were going to run all the time anyway.

6479 We have to dispatch the handling of those condensers with great care, because, although they are automatic in operation, the position of the automatic equipment is under manual adjustment, and the stability limits of these trans-

—2,769—

mission circuits are affected very quickly by the method of operating these condensers. So that the operators of a system of this type are not only skilled men, but they have to be of rather high type electrical men; they have to have considerable electrical knowledge. Practically all of our men of that type are largely—I think I am safe in saying a large percentage are—university graduates. All the men we hire

6480 today, who are intended to be graduated into that class of work, are university graduates.

The combination benefits to be derived from a hydro-steam system have great possibilities, but in order to obtain those benefits, extreme care has to be exercised. We feel that we are getting as much out of those plants as we possibly can, and it takes continuous application to do it.

Q. How is frequency controlled on the system? A. Frequency is controlled on our system by manual adjustment of the main turbines at a very gradual rate. We never allow

the frequency to vary more than plus or minus 1/10th of a cycle. That is exclusive of some possible sudden short-circuit, or something which, for a few seconds, might pull it down; but normal frequency is controlled within plus or minus 1/10th of a cycle, or plus or minus .05 cycles for the 25-cycle system, the 1/10th cycle representing the 60-cycle system.

If there are 60 cycles a second, 1/10th of a cycle would

be 1/10th of 1/60th of a second. We use Arlington time signals, which are dispatched to the plants by the telephone 6482
system three times daily. The maximum total accumulated time deviation, which, as far as I know, never occurs on the system, but which we agreed could occur without damage, will be plus or minus 3 seconds, and the regulating stations initiate corrections and try to maintain the time accurately within plus or minus one second. That is, there is never any accumulated error, that is the maximum amount by which the system might vary ahead for a little while, and then vary back, but on the average it is corrected and maintained absolutely correct at least three times a day.

The application of automatic time control equipment pro- 6483
duces a chart which is very little different from the one that we have. We could install the equipment at any time we want to, and have considered doing so, but the necessity for it did not appear to arise. We were not able to economize any on operators, because they had to be there for other reasons. And unless we have a closer requirement for time than now exists, we see no particular reason to install what is known as the automatic controller. That, however, can be installed at any time, and the turbines and all of the equipment are arranged to receive it.

6484 *Stanley Stokes—By Respondents—Direct*

Q. How is spinning reserve distributed over the system? A. We maintain spinning reserve, that is, turbines actually

—2,771—

operating and connected to the system, equal to our largest unit, which is 75,000 kilowatts. This has been previously mentioned.

The answer to your question is that we distribute this spinning reserve over the different parts of the system in such a way that failure of connecting links will not cause
6485 any loss of load due to lack of reserve. That is, there are essentially on our system what we call the north part and the south part, and if we were to put all of our reserve on the south part of the system, and then operate circuits in such a manner, as is occasionally done, and which becomes necessary at times, that this reserve would not be able to be placed on the north end of the system, in the event of transmission line trouble between the two parts, we would then place some spinning reserve on the north half of the system, even at an increased operating expense.

Of course, it is always cheaper to maintain your spinning
6486 reserve in one large unit at your big plant, but it will not always take care of the requirements of reliability of service, and we sacrifice, under those conditions, economy in operation to reliability, and split the reserve up and place it where it will do the most good.

In this combination of spinning reserve is where we make the most beneficial use of the Osage plant. If we had to

—2,772—

or at Ashley Street, and run it hour after hour, it would be place a small steam turbine on north half of our system,

much more expensive than spinning one of the wheels at Osage.

Q. What has been the record of the Union Electric Group with respect to reduction in operating expenses per kilowatt hour? A. The operating expenses in what there was of the Union Electric Group in 1902, were over 3 cents a kilowatt hour. As a result of the advances in the art, through economies resulting from consolidation and unification of a number of operating companies, operating expenses have been reduced to approximately 5 mills per kilowatt hour 6488 sold. These figures do not include taxes or depreciation.

The variation in these operating expenses is affected by water power, as has been previously referred to.

Mr. Hamilton: I will ask the reporter to please mark this sheet as Respondents' Exhibit No. 53 for identification.

(Respondents' Exhibit No. 53 was marked for identification.)

By Mr. Hamilton: 6489

Q. Will you state what this exhibit represents? A. This Exhibit No. 53 for identification represents the net output of energy of the Union Electric Group in millions of kilowatt hours, by years, from 1926 to 1939, inclusive. In addition thereto, it gives the operating revenue in cents per kilowatt hour sold, the production expense in cents per kilowatt hour

sold, and the total operating expense in cents per kilowatt hour sold, for the same period.

6490 *Stanley Stokes—By Respondents—Direct*

Q. This table has been prepared under your supervision? A. It has.

Q. And the facts shown are taken from the records of the respective companies indicated? A. They are.

Mr. Hamilton: I offer this in evidence as Respondents' Exhibit No. 53.

Mr. Odell: No objection.

The Examiner: Let it come in under that number.

6491 (Respondents' Exhibit No. 53 was received in evidence.)

Mr. Hamilton: I call attention to the fact that the exhibit indicates an increase in net output from 1,326,830,000 in 1926, to a figure of 2,468,420,000 in 1939; and that it shows during the period indicated a decline in operating revenue per k. w. h., a decline in production expense per k. w. h., and a decline in operating expense per k. w. h.

I will ask the reporter to please mark this sheet for identification as Respondents' Exhibit No. 54.

6492 (Respondents' Exhibit No. 54 was marked for identification.)

By Mr. Hamilton:

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Q. Mr. Stokes, will you state what this chart, Respondents' Exhibit No. 54 for identification, represents? A. This represents the b. t. u. per switchboard kilowatt hour, for the Cahokia steam generating station, for the years 1924 to 1939.

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Q. Has this chart been prepared under your supervision? A. It has.

Q. And the facts shown are taken from the records of the respective companies indicated? A. They are.

Mr. Hamilton: I offer this in evidence as Respondents' Exhibit No. 54.

Mr. Odell: I have one question before that is admitted.

I would like to have the witness explain what this phrase, "per switchboard kilowatt hour" means, as it appears on this chart?

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The Witness: That is a net switchboard kilowatt hour, I believe—if I find that to be in error, I will make the correction promptly.

Mr. Odell: You mean that there is some question in your mind as to whether that is net or gross?

The Witness: There is, because that wording there, which I had not previously observed until I read it here, the heading of the sheet, is indefinite, and I have given the statistics in the record for output figures. For example, in this exhibit here, 53, those figures

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—2,775—

are net kilowatt hours. I have also previously given some figures on total gross kilowatt hours, and although this was prepared under my direction, I did not do the exact work, and I am not quite certain whether that is gross or net.

Mr. Hamilton: Will you verify that, Mr. Stokes, and let us know?

The Witness: Yes.

6496 Mr. Odell: I suggest that we withhold the receipt of this exhibit until that is clarified.

The Examiner: Subject to supplying that information the chart is received as Respondents' Exhibit 54.

(Respondents' Exhibit 54 was received in evidence.)

By Mr. Hamilton:

6497 Q. I note from the chart, Mr. Stokes, certain variations or fluctuations over the period shown. Will you indicate briefly the reasons accounting for those fluctuations? A. They are brought about by the variations in hydro output, as previously mentioned. The year 1935, which has varied upward, was the result of extremely good hydro conditions, and the operation on the steam plant was at a very low rate, and we had difficulty in maintaining load enough to get up to the efficient point on the units. In 1935, as you recall, was in the depression, just coming out of it, and the combination

—2,776—

6498 of a good hydro year, with the low level of load, caused inefficient operation on the steam plant, but low total costs. Whenever you see a condition like this, with high b. t. u. per k. w. h., or relatively low steam plant economy, you will find a correspondingly lower total annual production cost, because it merely means that a large number of hydro kilowatt hours have come in there with hardly any expense.

Now if you took the year 1937, the first six months of 1937, the hydro power was very good. The average Cahokia load was only about 50 million kilowatt hours, causing poor

fuel economy at that time due to the fact that the hydro power was good. Have in mind that I am talking about efficiency of the operation of the turbine, and not total system cost of production.

This was followed by six months in which the hydro power had declined suddenly, and did cause a record high output from Cahokia. This put the operation of all the equipment at a point close to its capacity rating, and was above its efficient point, which would be about three-quarters rating, or a little above that. So that again caused a loss 6500
in economy.

In 1936, which was between the two, that was one of the poorest hydro years we have had, and that showed the effect on the steam plant by improving their economy.

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In 1938, the improvement in economy there was the installation of the No. 6 turbine, a 75,000 kw. unit, which went into service at the end of 1937. At the same time, there was a marked recession in loads which began on August 13, 1937, and we suddenly dropped load rapidly, and that left Cahokia's output rather light, toward the end 6501
of the year. This, together with good hydro conditions again in April, May and June, resulted in a rather low annual output for the year, but the installation of the turbine caused a drop in the following year.

In the year 1939, you will notice that it has dropped down, and that is brought about by the new turbine itself being more efficient than the other units except No. 1, which is about the same.

Q. In order to make the curve clear, will you state whether the point shown for 1924, for example, is an average

6502 *Stanley Stokes—By Respondents—Direct*

for the year, or whether it has any other basis? In other words, does this represent average B. t. u. for 1924, 1925, and so on? A. Oh, yes, it represents the average for the full year.

Q. And will you state the specific figure for 1924? A. 17,600 B. t. u.

Q. And, similarly, the figure for 1939? A. The figure for 1939 is 15,840, as close as I can read the B. t. u.

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6503 Q. Are you able to draw a comparison between the figures represented by this exhibit and the B. t. u. consumption for your Ashley Street plant at a period much prior to that shown by the exhibit? A. Ashley Street, in 1904, used 48,000 B. t. u. per k. w. h., and up as late as 1916, used 38,000.

Q. Has the cost of fuel shown a tendency to increase over the period of years? A. Yes, fuel is affected by both the labor costs at the mines, and freight rates, and our fuel costs have increased about 63 per cent. in the last 40 years.

Q. You might indicate, if you will, the general nature of that increase over the period you mentioned? A. Well, from
6504 1902 to 1918, the fuel cost about 6 cents per million B. t. u. From 1917 to 1927, the cost ranged from 13 to 20 cents per million B. t. u. Since 1928, or rather, 1929, we have purchased coal from 10.4 cents to about 12 cents per million B. t. u. Our anticipated, calculated cost for 1941 is roughly about 11.74 cents delivered to the plant, or 11.82 delivered in the bin. Those prices are calculated to take into account the effect of this Guffey bill.

The increase in the economy of operation has kept up with the increase in fuel cost to give a total lower cost of pro-

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duction. If the fuel cost keeps on increasing, though, there

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will come a time when we can no longer keep up with it, because we are beginning to approach a theoretical efficiency of our steam plant cycle.

I would like to expand just a little bit on that point. The hydro plants produce in a normal year about half of the total power, and make it more economical to operate a medium priced, medium efficiency plant, than it would if we did not have the hydro plants. For example, we have provided at Cahokia facilities to put in economizers in the first two or three sections. We never were able to show that the installation of those economizers would be an economy; in other words, that the gain in the B. t. u. economy or performance of the station would be more than offset by the maintenance and fixed charges on the economizers themselves.

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Keep in mind that our coal cost is not high, relatively. You may get 16 cents per million B. t. u. in the Eastern States.

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So that in the later sections we installed air preheaters, we do not use economizers.

In our Venice plant now under construction, we studied all of the various steam cycles to find out which one appeared to have the most merit, and we selected the 850-pound, 900-degree cycle as previously mentioned, which should give an economy of much less than Cahokia. But at the present time, we could not justify, or we could not show any gain in economy—and by "justify" I mean could not prove to ourselves,

in making a comparative calculation, could not show any

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gain in economy by going to a slightly more efficient cycle of 1,250 pounds, 925 degrees. We would really lose money, the overall cost being greater.

Another thing, if we were to install 160,000 kilowatts of this new equipment at Venice, at the present time and with present loads, instead of the 80,000—I am talking about today, now, to bring them in for operation in the winter of
6509 1941—we would be unable to give the additional 80,000 kilowatts a high enough load factor, we couldn't use it long enough hours of the year to produce an overall cost as cheap as we get in Cahokia. We would have to wait several years before our load would be sufficient that we could do it.

Our present system load at the night time is about 250,000 kilowatts, and there are times when we, for very short periods, have that amount of hydro power alone. So I merely repeat at this point the statement made once before, that all of these figures have to be given careful consideration in the light of the method of operation in connection with the
6510 hydro plant. If we were a straight steam system, we wouldn't operate just as we do.

Q. What department or departments operate and maintain the main and subtransmission stations of the Union Electric Group? A. The operation and maintenance of the electrical equipment in the generating plants and sub-sta-

—2,781—

tions on the main and subtransmission systems, is the duty of what is known as the electrical department. The electrical department has two rather main subdivisions, the power

plants department and the sub-station department, but it is their job to maintain and operate the property under this supervision, and to a certain degree they do construction work. That is, we do our own construction work on all ordinary types of jobs, and about the only time that we ever have done any extensive contract work has been in connection with the installation of a main steam plant or hydro plant.

Q. I think it would be interesting, as part of this description, if you would state the distribution of the demand over the system at the time of a recent peak demand on the sys- 6512
tem. A. We had a recent peak demand, referred to in previous testimony, of 489,000 kilowatts. But on another day in the same month, in a recent month, about July, we analyzed a peak of 484,000 kilowatts, just selected one at random, and made an analysis to see how the load was divided.

These figures that I propose to give you are kilowatts and not kilowatt hours. I am trying to illustrate the division of load where it occurs on the system.

At the time of that system peak of 484,000 kilowatts, we had on the 25-cycle system at Keokuk, in that vicinity, 6513

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66,600 kilowatts. There was no 60-cycle load in that vicinity at that time, so the total peak at that location was as given.

At Hull, which has been located on the map, and with which we are familiar, we had 16,600 kilowatts, all 25-cycle load.

At East St. Louis, we had 6,200 kilowatts, 25-cycle load, and 94,600 kilowatts of 60-cycle load, totaling 100,800 kilowatts.

St. Louis itself had 43,000 kilowatts of 25-cycle load; 184,700 kilowatts of 60-cycle load—or a total combined of 227,700 kilowatts.

Rivermines, Missouri, had no 25-cycle load, and a peak of 37,100 kilowatts, 60-cycle, which is also the total for that district.

I made reference to the St. Joseph Lead Company load as running between 28,000 and 30,000 kilowatts. With a peak of that character, I should say that their load would have
6515 been about 30,000 kilowatts, and our distribution load in the vicinity of 7,000 or 7,500, in that range.

In order to equal the exact peak figures, we have calculated the losses in some parts of the system, and in other parts they are actually measured, with the result that the losses are estimated to be 4,600 kilowatts on the 25-cycle system, making the combined total peak 137,000. The losses on the 60-cycle are calculated at 30,600 kilowatts. This fig-

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ure is a combination of measurement and calculation. The combined losses total 35,200 kilowatts, giving a system total
6516 of 484,000, as stated.

The Examiner: We will take a short recess.

(Whereupon, a short recess was taken, after which the hearing was resumed.)

The Examiner: Let us resume.

By Mr. Hamilton:

Q. Is control of the electrical system also centralized in the load dispatcher? A. It is. Control of the generating plants and the flow of energy over the system is centralized

in the office of the load dispatcher, located at 315 North 12th Street, St. Louis.

The Mississippi River Power Company and the Union Electric Company of Illinois, both have load dispatchers who control the switching on their own system under the direction of the St. Louis dispatcher. That is, it is not good business these days to bring too much detailed information into the hands of one man who can not possibly take care of it quickly in an emergency. You must not rob the responsibility of your individual operators; at the same time you 6518
must retain rigid control and supervision over them by the central dispatcher. That is the basis of their operation.

When I say that these separate companies have their own

dispatchers, those dispatchers have a limited scope of operation within their own district, and the general operations are under the control of the main dispatcher. Each man knows just where his responsibility stops, and the other man picks up.

As these systems grew, that was one of the first features 6519
that we had to watch. We over-centralized a little bit, and began to overload the duties of our central dispatcher. Then we had to reanalyze the problem, and today we have authority, for example, in the Cahokia superintendent or manager, to handle the machines under his own supervision. The load dispatcher is automatically notified of what they are doing, and in an emergency the load dispatcher handles the system, and the individual plant operator handles the plant.

6520 At other times, when there is no immediate emergency, the load dispatcher has already scheduled the operation of the units.

Of course, one of the important features in all load dispatching operations is adequate communications of all kinds, and the load dispatcher's office is in direct telephone communication with all generating plants, and in addition he has a carrier current telephone, which gives him an auxiliary means of reaching Osage, Rivermines and Keokuk

6521 in case direct telephone communication is not possible.

I mean by that, that there may have been some storm which has interfered with the telephone lines. Our power —2,785— lines are constructed much more reliably than any telephone circuit can be, and under sleet or storm conditions, the carrier current would still be available.

The load dispatcher's board is arranged with direct wire, lamp indication of the position of the generators and main bus oil circuit breakers at Cahokia and Page Avenue sub-station.

6522 All direct current automatic stations and four of the automatic A. C. sub-stations also have lamp indicators showing what machines are on the system. That, although it sounds like a good ~~many~~, is a very brief group of indications as compared to what could be done.

All generators at Cahokia, Venice, Ashley, Rivermines and Osage are started, loaded, regulated and shut down in accordance with the dispatcher's orders and schedules.

The dispatcher notifies the Keokuk plant of the load which they are to carry for St. Louis, but the dispatcher in St. Louis does not attempt to specify which or how many of

the 15 units at Keokuk shall be used, that being left to the chief engineer at Keokuk. The dispatcher also has control of and directs the operation of all transmission oil circuit breakers of 6,600 volts and above, as well as the buses of all sub-stations in so far as their primary supply is concerned. When I say "dispatcher", I refer to him and his group. He has assistants.

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All feeders involving direct distribution of energy to customers are under the control of the trouble department, 6524
whether they are at 13,800 or 33,000 volts. Where a feeder serves a dual purpose of transmission and distribution, the load dispatcher and the trouble department cooperate.

To handle the telephone traffic in the load dispatcher's office, each of two load dispatchers have desk-type switchboards with one trunk line direct to the outside, and three trunk connections with the automatic private branch exchange in the building. The carrier current telephone and direct wires to all plants and important A. C. sub-stations as well as the D. C. sub-stations, are brought in on each desk. Either man can pick up the call from the other, the stuff is 6525
all duplicated.

The combination of Bell Telephone service and our own private wire service is completely unified; that is, we have finally succeeded, after many years, in making extremely satisfactory arrangements whereby our own equipment can be brought in, in conjunction with the Bell Telephone equipment, and you don't distinguish when you are on the dispatcher's board. There were many years when the Bell Telephone Company thought that anybody else's telephone system would be dangerous if connected with theirs, but they

have gotten over that viewpoint, and we have a very fine arrangement which is superior to anything that either one of us could do alone.

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For example, in the old days we used to have to go to some other room or phone if we wanted to use our carrier current, or we might have to call a man and have him repeat the message. Today we can operate through the regular board facilities, you wouldn't know the difference, hardly.
6527 You can tell the difference in the quality of the tone a little bit, but otherwise you would hardly know whether you were talking on the carrier or on the Bell wire.

Q. Are the control boards in each power plant continuously manned? A. Yes, in each power station we have a complete control board. For example, at our main plant at Cahokia, there are five men on duty in the control room continuously. These men are assigned as bench board operator, auxiliary board operator, floor man, and maintenance man. The main operator, in ordering—or in operating a switch himself, has a floor man always available to him, where he
6528 can speak to him, whom he can send out and inspect the switch before or after opening, any way he wants to, or if he is opening a switch to put a "hold-off" tag on it for men to go to work, he sends this floor man out and has him open the disconnecting switches and place the tag out there, while the operator places a tag on the control button, so that nobody can close that switch while a man is at work.

The board operators attend to the control of the machines

—2,788—

in the plant, take readings on the meters every 30 minutes, and attend to any switching required by the load dispatcher.

I have made it clear, have I not, that this board I am now speaking about is over in the power plant? I am just taking a typical board.

The maintenance man, whom I didn't mention, or whose function I didn't mention, checks the controls, the rewiring and the operating conditions of the breakers in addition to the ordinary steady maintenance work as carried on by a different crew altogether. This maintenance man is regarded as an operating man and it is up to him to see that certain of these equipments that are under the direction of the bench 6530
board operator, are examined at regular intervals, in addition to the usual scheduled maintenance work.

Q. How many of your sub-stations are manually operated? A. There are 89 sub-stations on the system, 29 of which are manually operated continuously with one or more operators on duty. Sub-stations, in some cases, are both manually and automatically operated, as is the case where old equipment is still in operation, and automatic equipment has been added.

The division of these various stations by classes may be stated as main transmission sub-stations, manually operated 6531
—and there are 12 of those. There is no economy in attempting to operate a main transmission sub-station automatically, although there is an improvement in the reliability and con-

—2,789—

tinuity of service by having a large part of the equipment in these main stations automatic equipment. That is, the man is required there for communication purposes and for many other purposes, and we have found where we have added automatic equipment to old stations, that the auto-

matic equipment can do things that a man can not do, but there is one thing that the automatic equipment can not do, it does not think. It will carry out any predetermined schedule of operations, probably better and certainly quicker than a man can do it, but if the predetermined schedule of operations is not the thing to do at that particular time, the automatic equipment will probably do it anyhow, if it can.

For example, if you want to provide all the features in an automatic station that should be used, and provide a
6533 schedule of what should take place, in the event of a fire, you are very likely to lay down the wrong rules, that is, you have got to assume where the fire is going to start, and a lot of things like that. A man in the station would do something else. So that in these major stations, you have to have so much communication, so much transfer of information, so many other things to do besides operate electrical equipment, that we are not replacing the men with the automatic equipment, but we do add from time to time automatic features, and that is going to be continued more and more in the future, and we finally take advantage of a man's
6534 brains and do not tie him up with a lot of miscellaneous routine work which automatic equipment could do just as well.

We have 14 manual distribution stations, 49 automatic distribution stations, 3 manual direct current stations, and 6 automatic direct current stations,—in addition to those I previously mentioned.

Q. I don't think you mentioned the automatic main transmission sub-stations? A. The five?

Q. I don't think you mentioned that number. A. Main transmission sub-stations, automatic—5.

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There are grades of main transmission stations, that is, some of them are larger and more important than others. Those are where we have the operators. There are some cases where a sub-station is on the main transmission system. The one that I recited in some detail particularly, the Franklin County sub-station, that is attached to a main transmission line and called a main transmision sub-station, but it is automatic. The type of station I am referring to in this discussion was such as Page Avenue, for example.

Q. How is plant and sub-station equipment maintained 6536
in the Group? A. Each power plant has a machine shop and a force of maintenance men who overhaul all of the rotating and stationary equipment, and even when a major steam turbine requires overhaul, the work is done by our men

under the supervision of a manufacturer's representative. If we are going to take down a large turbine, we always want a manufacturer's representative on the job to see what the condition of the machine is when it is removed from service and opened up. That is largely a matter of division and the proper placing of responsibility. 6537

In addition to those power plant repair shops, I mentioned in the previous testimony that we had one main machine shop which is complete; and where a motor or device of any kind needs overhauling or rebuilding, and if it is so it can be moved, it is sent over to our main repair shop, keeping the amount of work carried on at the power plants at a minimum, the amount of machine work, I mean.

At the sub-stations, the maintenance and repair work is done under the direction of the sub-station department, who

6538 *Stanley Stokes—By Respondents—Direct*

have regular crews engaged in this work the year around. Again, if there is any special work to be done on the substation equipment, and if the equipment can be moved, it will be taken over to where our utility repair shop is located, for welding or forging, or such things as milling machine work and things like that.

The utility shop rebuilds distribution transformers. That is one of their main duties. There are thousands of those transformers in service, and they have to be continuously

6539 —2,792—

repaired and rebuilt. We used to rewind all of our distribution transformer cores ourselves, but within the last year or so, we have largely adopted the practice of buying replacement cores direct from the manufacturer. We take the old transformer down, bring it into the shop, take the core out of the tank, clean the tank up, and sandblast it, and repaint it or re-enamel it, and put in a new core, new oil, and it goes back in service in all respects a new transformer. The reason for this change is not that we can not do just as good a job on these cores as the manufacturer—we have the facilities

6540 and do—but it is that the gradual change in labor costs, and increase in quantity production methods in the factories, have made it cheaper to buy the replacement core.

There are lots of other types of work, such as impregnating, baking, cleaning, spray-painting, transformer testing, and similar work, which is done at this utility shop.

Flow painting is a new development being applied the first time this year to paint radiators on transformers. They are relatively inaccessible to a paint brush, and it is very difficult to get them properly painted, and we simply set the

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whole transformer in a big tank, lifting it into a big tank by a crane, and flow the paint right down over it, and it gets into every little crevice. We think we will not have to paint them one-third as often, by using this method, as we used to have to when we sprayed them on or tried to paint them

—2,793—

with a brush.

The sub-stations each require a local battery. That has nothing to do with the main storage battery that I referred to as having been eliminated in the Edison system. They require batteries for operating the oil switches, and those batteries are maintained by a crew of four men in the Electric Company of Missouri, the St. Louis district only. The Electric Company of Missouri is the company which has the subsidiaries, but it is also an operating company, and I am referring to it now as an operating company in the city district.

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It has this crew of men who continuously inspect these batteries, and keep them up on a schedule that requires an inspection of each battery every two weeks.

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In a similar manner, we have crews in the other sections of the Union Electric Group.

Each power transformer on the system is checked every six months as to breakdown and condition of the oil. If sludge is forming, or the dielectric value of the oil is low, filtering is required. Otherwise, complete filtering is resorted to only on general overhaul. We have portable filtering equipment, and very elaborate stationary filtering equipment for oil treating and handling.

6544 Oil circuit breakers have their oil filtered every six months, and indoor breakers are filtered every once in two years, except, however, when an oil circuit breaker has locked

—2,794—

out, after three reclosures, and then the oil is filtered before it is put back into service. The regular crews of the substation department carry on this work.

Q. Is an active program carried on to reduce the occurrence of accidents in the system? A. We have a very active
6545 safety organization. In addition to the various safety groups in each of the departments, who have regular meetings at least once a month, and who discuss all of the latest methods of safety work, we have a full-time safety inspector, who does nothing else but safeguard employees in their work, and try to reduce their hazards. His job is to see that everything in connection with safety work is carried on as it is supposed to be. He inspects all phases of it, and is a full-time employee.

That is not the whole story of safety work by any means. It is quite an elaborate organization. When you take all of
6546 the different groups, and take all of their individual safety groups, we realize that there are a large number of meetings each year, and it is a very major part of the business.

Even on construction work, we have a very carefully worked out organization. On the new Venice plant, we have a hospital on the job, carried on by the insurance companies who are interested in the work. They have an inspector, we have one. We have a little group who get together once a week, and list the accidents or any other things which might

—2,795—

have contributed to accidents, and they make out a report once a week, and attached to that is a daily report of the accident inspection work. I glance over those from time to time.

I noticed a remark on one of them, before I started up here. The safety inspector on the Venice plant reported that one of the contractors was not placing his equipment back in the racks which had been provided for it, and was leaving shovels lying around where men could fall over them; and that will be reported to this contractor, and he will have to 6548 be more careful.

In this particular case we are going beyond our own organization and seeing to it that the contractors' men shall not have any accidents.

Q. How are relays and protective devices tested and maintained? A. The relays and protective devices on the machines and switchboards are tested at frequent intervals by special crews engaged in this work continuously. This is a major bit of work. Some of the more important relays or automatic devices may be checked once a week; others may be given routine tests at regular, but less frequent intervals. 6549

To give you an idea of the extent of this work, I should like to list for you just a few of the devices, to give you an idea of how extensive this is.

We have a regular maintenance schedule and testing

schedule on 6,842 protective relays; 2,790 oil circuit breaker control devices; 695 regulating devices; 3,758 auxiliary control devices; 2,423 recording devices; 6 oscillographs; or a total of 16,514 devices that have to be regularly maintained,

6550 inspected and tested, and require a good many men in continuous operation to do that.

But the correct operation of the system as a whole is a function of the accuracy with which some one of these details work, and in order to maintain a high degree of service reliability, it is not sufficient to have purchased and installed good equipment and put it even in the right location, but these little devices have to be in good operating condition or the whole system would not function as it should. The
6551 care with which this relay work and this maintenance work is done, is, in my opinion, a most important part of the operations.

Q. How are overhead lines and underground cables operated and maintained? A. The main transmission system is operated and maintained by three line divisions. These divisions are located at Rivermines, Keokuk and East St. Louis.

The Rivermines group work up on the Illinois side to handle those circuits. The Keokuk division is responsible for the operation and maintenance of the St. Louis-Keokuk line, which has been described. In addition, they take care
6552 —2,797—
of all the subtransmission lines in Iowa and Illinois north of Alton.

The Rivermines line division takes care of the operation and maintenance of all of the 132 kv. overhead lines.

The underground cables are maintained by the St. Louis underground division. That is a separate group not included in the other three.

To give you an example of one of these groups, the men working out of Rivermines use three cars; 7 light and 3 heavy trucks; and they have located at the Rivermines sta-

tion caterpillar equipment, and then there are three machines used by patrolmen located along the line. These patrolmen make regular inspection trips along the line, reporting every type of repair that they can observe, and those repairs are carried out by the line crews. In times of trouble those patrolmen act to help locate the place where the trouble is.

I would like to point out that we depend on the service from our Osage plant. We have four transmission lines available between the plant and the St. Louis plants, and the loss of any one of those does not cause us to lose any service, and 6554
the loss of two of them would, under nearly all conditions, not result in the loss of any service. The result is that we rely on that transmission line to the same extent that we would if the plant were in closer to town, and that means that we have to use an unusually high degree of maintenance

—2,798—

and operating attention.

The list of items that comes in after one of these inspections would not only surprise you, but might amuse you, some of the tiniest little items. A loose nut, a single nut, will be mentioned, and the crew will have to get to that and 6555
tighten it. But those are the things that cause trouble if not taken care of.

On the underground cable system, that is handled as a different and separate operation. We have to distinguish in all of our work between different types of crews. An overhead crew is specifically skilled on that work, but they would not know how to do cable work, so you can't divide cable work as to location geographically. You couldn't put a group of cables here and a certain bunch of lines, and put them in charge of one crew.

6556 So that the regular tests and cable work and repair is all handled by what is known as the underground crew, and their headquarters are at St. Louis. Once each year cable circuits are given insulation and electrolysis tests. During the hot summer months we make frequent temperature surveys, both in the ducts and in the manholes.

St. Louis, as I stated previously, has an extremely high ground temperature, and also has a ramification of railway circuits. Those two conditions have to be carefully coped
6557 with. First, we make, probably, more elaborate temperature

—2,799—

surveys in the ground in the summer time than any company with which I am familiar. We place thermo-couples in the ducts, we have thermometers in the manholes, and we have to keep going over the system to be sure that no excessive temperatures exist.

On the electrolysis work, which is caused by stray currents which usually emanate from the railway systems, getting onto our cables, and then leaving at some point, at which point they damage the sheath, the electrolysis work
6558 has required potential surveys continuously for many years, in which we go around and measure these very small potentials that exist, and try to bond or ground these cable sheaths in such a way that no damage will be done.

I have stood in the basement of our Page Avenue sub station and seen as much as 6 or 8 hundred amperes coming in over the cable sheaths. That is leakage current from railways over the system; because our grounds are better and more extensive than the railway system, the current tends to flow from their system down to our ground, and it gets there via these cable sheaths. As long as we have them

properly bonded, and take them off at predetermined intervals, we can eliminate the damage.

There is also one other condition which require constant attention, and that is the chemical action which, in certain areas, operates to corrode the lead sheath. Lead is ordinarily

—2,800—

regarded as almost immune to chemical action, but there is a peculiar combination in certain of the soils that does attract the sheath, and we have to neutralize the ducts in those areas so as to eliminate that difficulty. 6560

Q. Are overhead lines inspected regularly? A. They are. The inspections are carried on, as a rule, on the overhead lines—well, I should qualify that statement, overhead transmission lines—that is, the main lines are inspected at regular intervals and the crew at the time of inspection does not attempt to make a repair. They make a very detailed record of what they find, and that record is turned over to the superintendent of the repair work, and he assigns the repair crews to the work.

In certain other types of distribution work, we use the regular linemen, who make a combined inspection and repair 6561 at intervals, and where they find anything wrong, they fix it.

Q. Now that inspection requires climbing and other investigation, does it? A. It does. About once each month the patrolmen make inspection tours, examining structures, wires, insulators, and the condition of the right-of-way.

Once each year a climbing inspection is made, during which each structure is climbed. In that case the men go over the towers, and tighten the bolts while climbing the structures. All dirty insulators are cleaned. Frequently we have

6562 *Stanley Stokes—By Respondents—Direct*

to remove the insulators and replace them with new ones,

—2,801—

or with others that have been claimed, and bring them into the shop where we chemically clean them.

There are various things, though, that adhere to porcelain insulators in the East St. Louis district. I mention that particularly because it is a heavy industrial area there with chemical plants—it is the headquarters for the zinc industry in this country. They quote zinc as f. o. b. St. Louis. We have
6563 the National Zinc Company there, we have got a fertilizer company, a chemical company, and almost any other kind of a company; and when the combined products from all of those companies settle on an insulator, you may have to take it down and take it into your shop if you want to keep it clean.

We have found that we can clean them very rapidly with a form of chemical that we heat, just dip them in and it takes the refuse right off. We replace them with new ones on the line, and put those back in stock.

That is one of the methods that we have developed which
6564 has prevented a large number of serious outages.

Q. You have spoken of patrolmen who, in a sense, police these lines. Are they stationed at many points along the transmission lines? A. Yes. I didn't go into any detail as to their operations. We usually try to pick a patrolman who is married, and see that he is fixed up in a residence located at a strategic point along the system. A telephone will be

—2,802—

placed in his home, and in addition to that, telephone booths will be located at intervals along the line.

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There are certain points at which the patrolmen can always go and get in contact with one of our main stations, from which all forms of communication are available to the system load dispatcher. So that we have even gone so far that the transmission line superintendent has a radio receiver in his car, which will receive communications from the transmission line when the carrier current is in operation. These patrolmen have regular duties, to make regular patrols, in addition to which they are sent out on special patrols and do minor maintenance work such as can be accomplished by two of those men meeting at a point, and fixing up small repairs. If it is anything of any major consequence, they will call for help.

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Right-of-way clearing and road maintenance, and other work requiring unskilled labor—the patrolman is authorized in such instance, within limits, to hire outside help, common labor, and he reports the work done and the hours worked. He also does some clearing at various times himself.

They report by telephone to the system operator at regular intervals each day, and submit daily written reports to the line department. From these reports and those made at the time of the climbing inspections, maintenance work requiring line crews is scheduled, and the work carried out.

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—2,803—

Store houses are provided at intervals along these lines, and in those are stored tools and supply materials. We also locate, at certain points, spare poles, if it is a wood pole structure, and we carry certain spare tower parts in stock at Rivermines. We have discontinued, several years ago, the practice of trying to keep spare towers. The reason for that

is that there are so many types of towers, so many varieties, that you, no matter how many spares you had, probably wouldn't have the one that you needed, and it wouldn't be close to the point where you needed it. If it were the one you needed, and were right at the point where you needed it, you still couldn't use it, because our experience has shown that where a tower fails—and that is very, very rarely, once in a matter of maybe 20 years—the footings will be damaged, and you don't know to what extent, and you do not dare to use
6569 them. Consequently, your first maintenance emergency work is to put up a temporary wood pole structure, and restore service quickly. Once the service has been restored, you might just as well wait to get the rest of the tower while you are getting the few parts.

So, by some experience, we have decided that the maintenance of spare towers is not practical. I have experienced several tornadoes, and there have been one or two towers destroyed for other reasons over the 25 or 30 years, and in every case we restored service quickly by setting up temporary

—2,804—

6570 wood pole structures, and rebuilt the towers later. So that is our present practice.

Q. In the proper maintenance of these lines, do you get the cooperation of landowners in the territory covered by the transmission line? A. We not only get the cooperation of the landowners, but we go farther than that. We know the methods that were used in the early days by right-of-way people, who would get rights-of-way on a contract basis, and then would not have to live with the lines afterward.

In the old days it wasn't uncommon for these right-of-way men to promise that immediately after the transmission line,

there would be an electric railway follow, and when the power company went out to maintain and operate this line, they met with a very cool reception. Well, we, having to live with these lines, see to it that from the time negotiations begin, to acquire rights-of-way, that no enemies are made.

If we can accommodate these farmers by letting them farm a little of the right-of-way, with crops that don't grow high enough to do any damage, it works out very well, and helps keep the weeds down, and keeps them satisfied.

So we start, from the time the contracts are first entered 6572
into for the right-of-way easements or purchase, and see to it that these contracts provide for some damages to fences, and any other type of damage, crop damage or anything, so

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that the first time that the wire stringing crew goes right through there with a caterpillar and goes through the fence, the farmer is satisfied that he will get paid for that, that there will be no loss there. He may even get a better fence. There is no trouble, and there is no more of this meeting you at the edge of the lot with a shotgun.

If we have easements where a transmission line is under 6573
construction, we recognize that the owner is entitled to complete his crop, and that that doesn't go with the easement. And we either see to it that he can, or pay him for it.

Now when it comes to operating the lines, these farmers are of great assistance to us. They report trouble. If a man sees a flash at some time, he will go to the phone and call in. If that turns out to be a case of trouble on our system, and has been of help to us, we will give him some form of nominal payment, anything from a dollar to ten dollars, depending

on how much trouble he went to; and you would be surprised how much trouble they will go to for a dollar.

So it has proved to be very beneficial. We hire them also for right-of-way clearance. That is another point. A farmer at certain times of the year has no work that he can really do efficiently on the farm. At other times he has more than he can do. In the slack periods he is very glad to get a little extra money, and we hire him to do the right-of-way work.

—2,806—

6575 Fence and creek crossings are provided, so that our regular patrolmen that have to go through regularly, can get along without damage and without delay.

Drainage ditches along the line are kept open to prevent flooding, and to prevent land erosion, and that is of assistance not only to ourselves but to the farmer. Roads and trails are maintained.

So that, in general, we make extra efforts to obtain the cooperation through these many miles of transmission line, because we have found by experience that it is profitable to do so, and an economy to the company.

6576 Q. In the construction of these lines, is it frequently necessary to cooperate with other utilities? A. Yes, we have to cooperate with the other power companies and telephone companies. That has become almost a routine procedure, and is carried out almost automatically. We both have the same requirements to meet for wire crossings, permits of all kinds, and there is very little, if any, difficulty in that particular part of the work.

With the R. E. A. groups, they are not skilled in the art in all cases, and they have to make these wire crossings, and they have to make reports to commissions, and in general

their idea is to put these lines up and get all these little items straightened out later, and we have found that it is very beneficial to help them, and at little cost to ourselves,

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and for our own protection, by making wire crossing prints. If a wire line is going to cross under one of our transmission lines, we like to know that the clearances are going to be as stated, and also like to have a complete print and record of it, and grant this wire company a formal permit.

In order to do this, there is required a standardized 6578
print, engineering drawing, of the crossing, showing all clearances, giving a plant and elevation. We have made a number of those for some of the Illinois R. E. A. groups, and that has expedited both their work and saved ourselves considerable delay and annoyance, and they appreciate it.

Q. How are the sub-transmission circuits operated and maintained? A. It is the duty of the overhead and underground divisions of the operating departments, located at various points throughout the Union Electric Group, to operate and maintain the distribution sub-stations, transmission sub-stations, and to carry on certain construction 6579
work.

The operation includes inspection, switching, except in the plants or sub-stations; location of trouble; emergency minor repairs and replacements.

The maintenance includes the work requiring crews of men, and consists of pole and tower replacement.

Maintenance includes the clearing, cable repairs, replacement, and all other such work which is not classified as new

—2,808—

construction.

6580 *Stanley Stokes—By Respondents—Direct*

The major portion of the sub-transmission system was built by the Union Electric's own men, installed from time to time, and they maintain the system.

Q. Are maintenance groups distributed throughout the territory? A. They are. That is a matter of importance to see that these repair and maintenance groups are strategically located so that minimum delay is had in case they are called upon to handle any trouble work, and also to minimize their mileage, the mileage which they have to cover in their
6581 ordinary routine work.

The largest groups are located at Webster Groves, East St. Louis, and Alton, Illinois, and at Keokuk, Iowa.

To facilitate handling of the sub-transmission circuits, they have materials and supplies and equipment maintained at these locations in a quantity sufficient for any emergency which may arise. We have even had, as you recall in respect to our main transmission system, tornadoes, and we had ample material to repair the damage.

Q. And is it, or is it not, true that in the maintenance of the sub-transmission system as well, the testing of under-
6582 ground cable, and electrolytic testing, and dielectric testing is made? A. I fail to quite get the question.

(The question was read by the reporter.)

The Witness: There is a joint coordination of all of this work. The general supervision heads up in the load dispatcher, and in the system operators, and they are in constant communication with all of the different sub-divided groups, and in the event that a line

were being maintained, and should be required suddenly for service due to the failure of some other facility, the load dispatcher, through his operators, can contact, through this communication equipment which has been described, this maintenance crew and get that line into service before it had been anticipated.

Those things are all necessary if we want to make the fullest use of our reserve facilities. The line would not have been taken out of service without the permission of the lo[illegible]' dispatcher group, to begin with. The 6584
special telephone facilities are maintained between these operating groups and the load dispatcher and the system operators, and those facilities are in addition to the main telephone facilities which I have previously described.

These facilities also are employed in connection with the safety work, such as placing hold-off tags on equipment upon which work is to be done, and to restore the equipment to service.

Much time can be unnecessarily lost in taking a circuit out of service and getting it back again if 6585
communication and an orderly, systematic group of

—2,810—

men have not been provided. We feel that we operate that feature very carefully.

The dielectric tests of underground cable are made with a high voltage Kenotron equipment. This is a vacuum tube high voltage device, which can produce around 150,000 volts of direct current, and we take the cable out of service and apply this voltage, and

6586 *Colloquy*

gradually raise it until the test specifications which the cable is supposed to meet, have been reached. For example, take a 13,800-volt cable which is scheduled to be tested at 26,000 volts. This machine gradually raises the voltage to 26,000, and holds it there for a predetermined time. If the cable fails before we get to 26,000, that is what we wanted to know. It needed repairs.

6587 So we have periodically tested all of our cables, and the results of these testings usually are confined to the cable joints, they seem to depreciate, or maybe they never were made right in the early days. Wherever we can blow up a cable joint in tests, we feel that we have saved one failure in service. As soon as the cable fails in a test, we repair it completely and test it again, and when it finally will withstand this test, we know that it has withstood a voltage about twice as high as it will receive in service.

6588 We have rather elaborate equipment for locating faults in cables. I won't go into that in particular detail, but we have a Wheatstone bridge, which is a means of measuring resistance, and from that we

locate the probable fault within a block or two. Then we go out with what is known as a Lundin fault analyzer, and having put an alternating current wave with a very saw-toothed type of wave on the cable, we just go along with this exploring coil of this Lundin analyzer, walk right along the top of the ground, and find the point at which the fault is located. We can get

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that within a matter of feet, and then we know right where to go to work and pull out the damaged links.

Temperature surveys, I have previously mentioned, and also the chemical erosion and the electrolysis.

The Examiner: We will recess until 2 o'clock.

(Whereupon, at 12:35 o'clock p. m., a recess was taken until 2 o'clock p. m., of the same day.)

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6592 *Stanley Stokes—By Respondents—Direct*

AFTERNOON SESSION

(The hearing was resumed at 2 o'clock p. m.)

The Examiner: Let us resume.

Whereupon, STANLEY STOKES resumed the stand and testified further as follows:

Direct Examination by Mr. Browning (Continued):

6593 Q. Just before the noon recess, Mr. Stokes, you had been describing the operation and maintenance of the transmissions systems. Could you now tell us briefly about the maintenance of the distribution system? A. Yes, the distribution system in the Union Electric group is under the jurisdiction of a distribution department in each operating division.

Distribution, as we classify it, is the operation, maintenance and construction of the lower voltage distribution circuits. In most cases these are 2,300/4,000 volt circuits.

The necessity for close contact with this system, and
6594 the volume of work that is entitled in the distribution system, requires that each system have its own organization.

They all function in conjunction with the main organization in the city who supervises the general design and the major features. All of the organizations are on exactly the same general pattern, and I shall describe the St. Louis City

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Division which will, to a large extent, typify the other smaller ones.

The St. Louis distribution system was previously stated to represent about one-fourth of the investment in the system.

When I say "St. Louis distribution system" in this case, that is not altogether definitive. I should say the distribution system of the Union Electric group that represents about one-fourth of the total investment in the system. And it is readily observed that that must constitute a huge quantity of poles, wires, meters, transformers and other associated equipment.

All parts of the system, of all voltages, outside of the power plants—I am referring specifically now to the distribution system—are under the jurisdiction of a distribution 6596
division. The functions of the division include, first, design, engineering design, field surveys, estimating, and preparation of specifications are carried out by cooperative consultation with related departments such as the electrical power plants, and consulting electrical engineering departments. By that I mean to convey that the distribution department does their own specific engineering and does not require advice on the day-to-day functioning of either design, maintenance, or operation, but that frequently the problem in the distribution department overlaps and extends into other divisions, in which case they are required to consult 6597
with the other departments and obtain advice.

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A simple illustration of that is a cable from a power plant to a sub-station is in the sub-transmission group as we have defined it, and yet, because the distribution department has the cable men under their supervision, they would install that cable and install the duct and they would repair it if it got in trouble. That is because it is necessary to maintain a large cable department in the distribution system, and we

do not duplicate it for the sub-transmission system, that is the cable group is really the same.

So that if a cable were to be installed, one end of it at the power plant involves an oil switch and a transformer, the other end involves a transformer and a sub-station. The sub-station involves outgoing distribution feeders. It is obvious, therefore, that if additional facilities are required at a sub-station, that the responsibilities and authorities of at least three departments would become involved. In other words,
6599 whenever a facility has to be added or changed that extends beyond the distribution system, they sometimes do not have full responsibility for that. But they do do all of their own engineering, design and operation within the strict scope of the distribution department and may extend, by joint operation with other departments, into some of the other work.

Construction involves the installation of overhead circuits on pole lines, underground cables, in conduits, or buried

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direct in the ground with proper protection; submarine cables laid across the Mississippi River for sub-transmission and
6600 supply circuits to the distribution stations.

Operation involves emergency repairs, switching of circuits, switching out of circuits for reserve or for repair work; and the handling of circuits in emergency.

Operations also involve meter testing and periodic surveys of voltage conditions.

At this point I wish to explain that the same functions have to be performed in the distribution system as occur in the sub-transmission system, such as voltage surveys, corrosion of cable sheaths, electrolysis, and such matters.

When I discuss these items which have been previously touched on in the other divisions, I shall attempt to be as brief as possible.

In the operations—the meter testing, as such, which is strictly a part of the distribution department operation, is carried out in the meter division, which itself is under the supervision of the power plants department.

As previously discussed, the sub-transmission circuits are handled and operated under the direction of the system load dispatcher, but the distribution department is directly involved in many of these operations, and it keeps in close touch with the load dispatcher. 6602

Maintenance of the distribution system involves the re-

—2,816—

placement or repair of all parts of the system for whose operation that department is responsible. That is largely poles, wires, cables, conduits, services and many other items.

In the district outside of St. Louis, outside of the St. Louis area, these same functions are carried on but are in many instances combined with some other group for economy reasons. 6603

In St. Louis County, the operation of the distribution system is carried on in conjunction with the operation of the St. Louis County Gas Company. That company was mentioned only once, I believe, at the beginning of this hearing, and described.

The St. Louis County Gas Company——

Q. (interposing) I don't believe we need to go into the gas company at this time. A. I merely intended to mention that they worked with the distribution department and to that extent were a little different than the city group.

6604 *Stanley Stokes—By Respondents—Direct*

In the Iowa Union Electric Company, the operations up there are carried on as economically as possible in conjunction with their local requirements for that gas company in that district.

And in every respect they attempt to utilize their facilities to the greatest advantage in the interests of economy.

Q. Is the organization set up functionally? A. Yes, the

—2,817—

6605 organization is set up for a functional division of responsibility, under a superintendent of electrical distribution in each operating department. A distribution engineer is in charge of design; a construction superintendent for each major unit provides a specialized expert in each field. A cable superintendent operates for the underground cable construction and maintenance; a conduit superintendent for excavations and subway construction; an installation superintendent for all construction and maintenance facilities on customers' premises, including meters; and an overhead superintendent for each major unit of the system, for the erection of poles, stringing of wire, including the maintenance of

6606 these properties to a predetermined reliable standard; an operating superintendent, in charge of trouble service, patrols, inspection, and testing of distribution equipment, surveys of many conditions, some of which have been mentioned, such as voltage, electrolysis, cable temperatures, and all other activities not involving permanent construction or maintenance.

In this category we mentioned voltage surveys. That has not previously been discussed at length because it is primarily a function of the distribution department to ascer-

tain that all of their customers are receiving suitable and proper voltage. In order to do so, periodic voltage surveys are carried on. By "voltage survey" I mean a considerable number of volt meters are set at various points on a feeder to determine the variation of voltage from the sub-station

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clear to the end of the feeder, and to see what voltage typical customers are obtaining. We have to watch the high voltage in close to the sub-station, at times of light loads, and low voltage at the extreme end of the circuit at times of heavy 6608 load, and to see that this variation is not greater than the prescribed limit.

A chief clerk supervises the performance of all of the clerical functions which can be reduced to a routine.

The superintendent of records maintains the system diagram, plat records of all properties, has charge of the permit and easement files and directs a limited amount of drafting work for the department.

In St. Louis County, the general handling of the distribution system is very similar.

In the distribution department there are a large number 6609 of employees. It is one of the largest single divisions of the entire company. I won't attempt to go into particular details with respect to these employees, but I would like to mention just a few of the types, and I will illustrate the number of men.

Supervisors in St. Louis city—there are 12; in St. Louis County and outlying plants—9; in Illinois, 7; in Iowa—2. In all there are 30 supervisors.

In a similar manner there are 34 engineers, 28 estimators

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6814 *Stanley Stokes—By Respondents—Direct*

But inasmuch as the purchasing department is carrying on the complete functions from the time the order is placed, until the material is received, we send this man there under their direction, and the whole process is therefore kept in

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one group, and under one general control. It is working out very nicely.

As an example of some of these facilities, recent emergency requirements of wire for both Iowa Union Electric
6815 Company and the St. Louis & Belleville Electric Railway Company, were obtained to their advantage, largely due to the broader contacts which the electrical buyer is able to maintain by virtue of the large volume of these products purchased for the group. Also, in the construction of a new freight office building for the St. Louis & Belleville Electric Railway Company, the department functioned not only to obtain the best bid, but also to assist the railway company materially in analyzing the proposals, together with the ability of the various contractors to best meet the requirements of the user. In other words, the Belleville Company
6816 makes very few contracts, that will be the only one of that kind that it will make for the year. And the larger group are making contracts right along, and they know the ability of these various contractors to do the work.

The department functioned to be of assistance to the Union Electric Company of Illinois in the shipment of some large transformers which were urgently required. The traffic clerks' handling of transportation and expediting, resulted in a net saving of one week's time in getting the equipment into service.

—2,898—

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This transportation problem required specialized handling because of certain clearance difficulties. They were too big to be shipped by ordinary route and by making a careful study, they saved that much time.

The availability of engineering buyers has been mentioned and that again is of considerable importance. I won't stress that any further, but we have made three trips back to the factory for the purchasing department in the last six months, and in each case picked up a number of changes required in the equipment just before shipment, any one of which would have more than paid the cost of these trips.

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It has the further advantage that the engineer who sees the equipment at the plant all assembled is in position to assist the local construction forces when it is received.

Some of this new equipment, particularly in air circuit breakers, has changed in its complexion so rapidly that the man who hasn't put in any for a year, doesn't recognize the stuff when he sees it. I mean the previous switches which he would have received would be oil circuit breakers.

6819

Q. Does the operation of a centralized purchasing department result in obtaining low unit prices? A. These activities, such as those cited, do result in low prices. The most obvious are reductions brought about by the purchasing of larger quantities with larger discounts, the coordination of standards, not only as between the various operating units,

but with industry standards, and manufacturing standards, which contributes to lower prices by the avoidance of special runs, as well as by taking advantage of increased quantities.

6820 *Stanley Stokes—By Respondents—Direct*

The broader contacts of a specialized buying group permit more intelligent appraisal of price levels, and a better timing of purchases, all of which contribute to lower first cost.

I would like to cite just a few examples, and make it as brief as I can, of this type of economy.

Take line wire, and service cable. Normal requirements of line wire for the Iowa Union Electric Company will run only about 25,000 pounds annually. Purchasing in a central-
6821 ized department takes advantage of better market timing, and based on quantities which are never less than 100,000 pounds, results in marked savings to that subsidiary.

In connection with the recent change-over from 25 to 60 cycles at Fort Madison, the Iowa Union Electric Company required 143,000 pounds of bare and weather-proof wire, which were furnished on contracts made by Union Electric of Missouri, prior to and in anticipation of the market rise in the fall of 1939. These contracts were made with copper at 10½ cents, which wire, when released to them, was taken with copper at 11¼ cents, and resulted in a saving
6822 from three-quarters to one cent a pound.

—2,906—

The same is true of Union Electric Company of Illinois, and to a lesser degree of the Lakeside Light & Power Company.

The requirements of service cable for these subsidiaries follow much the same pattern. Unit prices that they would obtain, being based on a minimum of 50,000 feet on centralized purchasing, whereas their possible maximum would only be 10,000 feet in any one order.

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Heavy underground cables for the transmission system, and special rubber insulated cables, are used largely in the St. Louis metropolitan area. However, such cables are occasionally required by Union Electric of Illinois, and frequently by some other subsidiaries, such as Union Colliery Company, and the St. Louis and Belleville Railway Company. For example, Union Colliery Company uses large quantities of rubber insulated machinery cable. In the last few months, we purchased, from the centralized division, 15,000 feet of this cable at substantial savings.

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A recent order for transmission cable for Union Electric Company of Illinois amounting to approximately $100,000, was bought at 6 per cent. below the level which would have been paid by them had it not been grouped with the other contracts.

On watt-hour meters, a quantity discount of 6 per cent. is obtained due to the large quantity which the Union Electric Company buys. It is doubtful if any of the subsidiary companies could earn any quantity discounts at all, with the

—2,901—

6825

possible exception of Union Electric Company of Illinois, which would earn a maximum of 3 per cent.

The purchase of line hardware, and line specialties, in the quantities involved for the whole group, is consistently made at price levels ranging from 5 per cent. to 15 per cent. under comparable prices if each individual unit were to make its own purchases.

Q. I think you have illustrated sufficiently the point you were making.

6826 *Stanley Stokes—By Respondents—Direct*

In the operations department, is it necessary to employ a salvage salesman to dispose of salvaged material? A. Yes, the purchasing department employs a full-time salvage salesman. That is really a pretty good sized business, and he sells everything from the scrap materials to machinery. When you finish a large job, you don't try to carry over machinery for many years, you sell it and buy it again if you need it. So that when the Osage project was completed, there was a large amount of machinery on hand which had
6827 to be disposed of, and as a regular process we burn the insulation off of old wire and strip the lead off of cables, and reduce it to scrap copper or scrap lead, or scrap of other kinds. We do some salvage too, in which some of that stuff which is in pretty good condition is repaired and put back into service.

The subsidiaries' scrap are all accumulated into the cen-

—2,902—

tral warehouse, and all handled at one time. We get from half a cent to a cent a pound more by getting it all in one group that way, than the small companies would for their
6828 small quantities.

The Examiner: Let us have a short recess.

(Whereupon, a short recess was taken, after which the hearing was resumed.)

The Examiner: Let us resume.

The Witness: I merely want to illustrate the magnitude of the scrap transactions. A single transaction recently involved the sale of over a million and a quarter pounds of accumulated scrap wire, and the

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other surplus in scrap represents about $40,000 a year, or something on that order of magnitude.

By Mr. Hamilton:

Q. Does the operation of the department involve the study of the applicability of various sales tax statutes? A. Yes, the matter of properly contracting for, delivering and applying equipment, requires, these days, that some reasonable study be given to the matter of sales taxes and other features. This is something of importance. For example, 6830
one individual purchase transaction made during the past several months has involved the question as to the proper applicability of taxes in amounts ranging from $2,000 on one item to $27,000 on another. In other words, by a certain

—2,903—

process of buying and shipping, you can resolve what appears to be an interstate commerce transaction into a mere intrastate transaction, in which the combination of circumstances might require you to pay sales taxes, and if the same transaction is handled in some other manner, only slightly different, it does not require you to pay any. 6831

Q. Without going into detail, will you give us very briefly the general pattern of the operation in your warehouses and storerooms, which I understand from your previous testimony—in which you have to some extent located the physical facilities—is an item of substantial importance in the operations of the system? A. Yes, the various storerooms and the handling of material are one of the major items of the company's business. I am trying to condense and reduce my remarks on this, to a very minimum, but I

must mention the central stores office, which is a clearing house and a control center for all the stores operations, and there is where the general stock records are kept, and the headquarters of the general storekeeper and his assistants. It is a pretty large department. I know there are some 35 or 40 clerks there in the one room, just by observation, and the utility shops and other facilities there.

The particular location of this general storeroom is at 19th and Gratiot Streets, and at that point they have just

6833 —2,904—

recently constructed another large material handling area, with modern facilities.

—2,905—

In addition to the stock record, it is the function of this office to see that the minimum quantities of stock are at all times on hand, and replenish the stocks as fast as the minima are reached, and to see to it that the previously set maximum amounts are not exceeded.

Q. You might give us, if you will, the number of em-

6834 ployes who devote their time to this particular phase of operation, and also the extent of the transactions handled. A. There are six store rooms located at six of the power plants, and quite a number of other individual points at which material is distributed, in addition to which this same stores department serves the properties in both Missouri and Illinois.

The number of employes for the past year, or at some point toward the end of the year, amounted to 181 at the time this count was made.

They include two employes at the store room of the Mississippi Power Company and one at the Iowa Union Electric Company.

In the operation of the stores department facilities, some 20,000 different items of material are stock, the average value being about two million. About 350,000 items are received, and 760,000 disbursed annually. The approximate value of the net annual issues of material is three and one-half million dollars.

Excluding fuel and other items which do not pass through 6836
the accounts of the stores department, 325 railroad cars of materials are unloaded annually, and a further large quantity of materials received by truck. Twenty hundred tons

of scrap material are shipped annually.

Q. Now, very briefly, the major objections of this particular department. A. Well, the first objective in any stores department, and certainly in this one, is to render adequate service to the various company divisions, so that they get the material they need when they need it, and to have available adequate personnel and adequate transportation equipment 6837
to get the material on the job when emergencies occur.

I could describe several examples of that particular case, including two tornadoes, and the general object there is to keep the structures and the yards properly equipped to do a big job when necessary, and to do the regular job efficiently.

The second objective is to do the things that are required as economically as possible.

For example, at the Cahokia plant all materials required are delivered by store employes direct to the location where

6838 *Stanley Stokes—By Respondents—Direct*

needed. This gets the material to the job faster, and is more economical, because it eliminates the time of mechanics making frequent trips to the store room.

For example, it is about a half a mile if you go the length of that plant and back, with a piece of material, and for a high-priced electrical employe to make such a trip consumes considerable time, particularly if he does it on foot, which he would.

—2,907—

6839 The store room, which is located in the yard near the power plant at Cahokia, has little—what are generally referred to as scooter cars—and they come over to the main plant with ordinary supplies of bolts, nuts, and so forth, go right into the elevators, go up to the sixth floor, and right out in front of the boilers, wherever it is, and deliver the material right to the place where it is needed.

That can be done in a fraction of the time that used to be required when they let the employe go and get his own material from the store room.

6840 Mechanical handling of equipment is used almost throughout our whole system. We have all forms of mechanical handling devices. By that I mean such things as a stacker. That is a little electric truck that runs in and goes under the box, or whatever it is, and elevates it, and stacks it up on all of the other boxes. All of the stores material of the heavy type is mounted on raised platforms, raised so that this equipment can run under it, pick it up and take it wherever it is wanted, and set it down again without the necessity of a man having to lift it.

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The possibility of accidents in handling materials is quite great, and the stores department is particularly active in its safety work.

Q. Now, is the work of this particular department coordinated as among the various companies in the group?

—2,908—

A. It is, completely coordinated. The fact is that it serves the various companies just as though it were one operating unit. In fact, I expect if you were to ask some of the employes of the stores department, I doubt if they know that in 6842
some of these cases they are working for separate subsidiary companies. That is, they treat the material delivered to the Illinois-Cahokia plant just the same as they do to the store room in St. Louis County, which supplies the gas company.

The unified stores system has materially reduced the cost per unit of handling equipment and materials.

It is a big economy in the floor space, which after all is expensive in these warehouses, to operate them jointly for the whole group, because if each one has its own store room location, in many instances they would be in the same location
that the joint one is now. 6843

For example, I think of the St. Louis County Division; they have a store room near our Page Avenue sub-station. I know the electrical department would have to have one at that point, and the gas department would need one in that immediate vicinity. And the single store room handles both equally well.

Q. What do you regard as the criteria of a high-quality electric service? A. I should define high-quality electric service as primarily constituted of three factors, first, con-

6844 *Stanley Stokes—By Respondents—Direct*

tinuity of service; second, voltage regulation; and third, the frequency control or regulation.

—2,909—

In comparing those three as to importance, I should say that—it is a little difficult to state which is the most important because if any one of them were fully lacking you would have no service, and all of them have to be supplied and have to be the best available if we are going to have a resultant high quality service.

6845 To state specifically and grade electric service is a rather difficult matter, but to obtain a relative idea of a very high-grade service, as compared with a slightly lower grade, is not difficult.

Q. Now, if you will, discuss each of these criteria as applied specifically to the Union Electric Group. A. In the Union Electric Group, the effort has been made consistently for years to each year improve the grade of service rendered. We also have to keep in mind at all times the value delivered to our customers per dollar, and the co-ordination of those requirements to give the customer the most for his money is

6846 the ultimate objective.

Now, discussing the service feature, I should say that if I had to place the greatest value on any one, I would say that continuity of service was the most important. The degree to which service is continuously available is a measure of its quality. The continuous service or nearly continuous service is to be had only as a combination of a number of factors,

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among which may be mentioned the suitable design carried out under the direction of competent engineers, the most reliable apparatus obtainable, and the duplication of facilities

where required, so that in the event one method of supply fails, another is available to take its place, and last, but not least, adequate operating forces supplied with proper equipment and under the direction of experienced and highly skilled supervisors.

The fact that this group of companies has a long record of highly continuous service is a result of the conscientious adherence to these principles. In the description of the property we have previously discussed the fact that all of the power plants were closely interconnected by duplicated main 6848
transmission service, also that the sub-transmission system always had another cable to take the place of the one that might be in trouble, and that the transformer banks at the substations and power plants were duplicated.

—2,911—

In describing the power plants themselves, we showed how the buses were duplicated and how facilities had been provided to transfer turbines from one bus to another, and similarly for feeders and associated equipment.

I am going to make this comparison of these facilities 6849
just as brief as I can to bring out the point which I am trying to make, namely that all of this equipment has to be provided and suitably designed and coordinated if continuous service is going to be available.

We then, after describing the equipment itself, described the operating forces and their facilities, and their strategic location of warehouses and other facilities and transportation equipment to maintain the service and to restore it as quickly as possible.

6850 *Stanley Stokes—By Respondents—Direct*

Our operating forces are highly paid, experienced men with, on the average, a long record of service with this particular group of companies. The result of the coordination of all of these facilities is that the Union Electric Group renders what in my opinion can be stated definitely to be high quality service.

Not since 1907 in the early days of the electric light and power industry has this system sustained a complete shutdown. At that time the entire district was served by a single
6851 steam plant in St. Louis. Trouble there shut down the entire plant and caused the complete interruption of service for a number of hours. Such a situation would be hard to conceive under the present unified system of interconnected

—2,912—

generating stations.

Now, in attempting to describe continuous service, it is a little difficult to get exact bases for such description. I attempted to make an analysis of the seven months from April to September, 1940, to determine at the present time what the probable percentage of continuous service that a
6852 customer of the Union Electric Group might anticipate would be.

The calculations for that particular period which were based on a customer outage probability of once in 4.22 years worked out, on the calculating machine, to indicate that the customer has trouble-free service, that is, he has continuous service, for 99.99729 per cent. of the time. I tried the same thing for year ending September 27, 1929, and at that time the customer had an average outage once in every 1.39 years, which gave him a percentage of 99.99179. Now it is obvi-

ously difficult to discuss percentages of that type, and a more satisfactory approach is to analyze the interruptions to service and to indicate improvement by giving the reduction in the number of interruptions.

This method consists in describing the bad part of your service when you are attempting to state that it is good service, and is a little bit awkward, but seems to be the only suitable method.

Q. If I may interrupt you just a moment, you used a figure in your testimony of one customer outage in something 6854
like 4-plus years. Is that the present record of performance?

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A. Yes. I stated that,—or I meant to indicate that it was the experience in the seven months ending with September of 1940, which period we have just analyzed; and the other figure of one in every 1.39 years reached back to 1929.

The object there was to indicate improvement in the service in that interval of time.

A similar situation exists when one discusses transformers themselves. A large power transformer may run
99.15 per cent. efficient, leaving only .85 per cent. for all 6855
losses. So when such equipment is being analyzed and attempts made to determine what the nature of the losses are, we usually describe the losses, such as iron loss and copper loss, and not the transformer efficiency as a whole. But in so doing it should be kept in mind that we are devoting our attention to the .85 per cent. and expanding it, and not to the 99.15 per cent.

Now discussing some of the major interruptions in the last 33 years, since that period in 1907 when we lost the

total load on the system and which has not occurred since, I have examined the records and have picked out what appear to me to be cases of severe general system disturbance, that is not located with respect to just one feeder or one customer, but outages which affected the whole system for a period of time long enough to be measured and to be appreciable.

There were 15 such cases in the 33 years. The greatest

—2,914—

6857 duration of any of those cases was brought about by the tornado which St. Louis suffered in September of 1927. This storm severely damaged our Venice power plant and destroyed the Venice sub-station. Since the greater part of our city transmission system is underground, areas other than struck by the tornado were only affected for a moderate length of time.

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In the tornado area itself, we did not have all service completely restored for about 5 days, but in most cases, service was made available as quickly as the customers were in

6858 position to use it.

The largest single loss of load in the period of 33 years resulted from a difficulty in attempting to synchronize No. 5 generator at Cahokia on September 3, 1931. This resulted in a temporary loss of 97,000 kilowatts of load, most of which was almost immediately restored, and the remainder completely restored within 34 minutes after the occurrence of the interruption.

I attempted to arrive at some other basis for the accumulated effect of these major outages, and although this has to

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be given as a very rough approximation, I totalled up the production of the kilowatts stated to be lost, and the time during which it was stated to be out, and added those figures together. With the exception of the tornado outage, I concluded about three-quarters of a million kilowatt hours should represent the approximate total duration of outage for the period.

Q. What period is that? A. That is the period from 1907 to date, and was occasioned by these major outages. That, placed on a percentage basis, is very small. I didn't attempt 6860
to do that, but to illustrate, we expect to have a send-out for the year 1940, approximating 3 billion kilowatt hours, and

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three-quarters of a million would be a very small percentage of the one year's send-out alone, not to mention the previous 32 years. So it is obvious that the customer gets continuous service.

Q. You have also spoken of good voltage regulation as being another test of high quality service. Does the Union Electric group maintain good voltage regulation? A. I think 6861
I can say that Union Electric group makes more than an ordinary effort to maintain good voltage regulation. I stressed that in some of my previous testimony with respect to the amount of special equipment which we have available for that purpose, with particular reference to load ratio control transformers. Those are a type of main power transformer which handles tansmission lines, and is so designed that step regulators can step the ratio of transformation up and down while the transformer is in operation.

Also synchronous condensers and other associated equipment are in extensive use on our property, and I believe in more than the customary amount.

These features, together with the fact that practically all of our distribution feeders are equipped with the highest type of voltage regulating equipment, are all conducive to good voltage regulation. The fact that the voltage is good at the customer's premises, is not left to chance, but is determined by voltage surveys.

6863 —2,917—

Our voltage level itself, that is the lamp voltage level, whether 115 volts or 120, is carried at the most approved value, as measured by recent standards, and the voltage variation at the customer's premises is kept within close limits.

Q. Has the Union Electric group been successful in maintaining close frequency regulation? A. We have no difficulty in maintaining good frequency regulation on our system. We have no particularly severe types of load to handle, which represent a major portion of our load. By that I mean, for example a most severe load to carry would be that of a

6864 big steel mill, if it represented a large percentage of the system. We have one or two such loads, but they are not a big percentage of our total capacity.

The governor performance is constantly being observed and studied and at the present time our frequency regulation is sufficiently good, in fact better, than the requirements of any of our customers, and our chief object today is to acquire and improve our governors so that in the future, when new processes may be developed that require closer regulation, we will be in position to provide it without undue expense.

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By increased requirements for closer regulation, I have in mind primarily future interconnections or any type of connection which requires that different parts of the system be maintained in synchronism with themselves, or with other systems, without unnecessarily transferring load. Surging is a good way to express it. The question that arises

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in this connection is as to whether these requirements for precise frequency control are really a provision for the customer or whether they are not primarily a function operation 6866 of the system itself.

In any event, the complaint on frequency, I believe almost never arises—I don't recall any myself in our district.

—2,919—

Mr. Hamilton: Will the reporter please mark this diagram as Respondents' Exhibit No. 55 for identification?

(Respondents' Exhibit 55 was marked for identification.)

By Mr. Hamilton: 6867

Q Please explain what Respondents' Exhibit No. 55 for identification represents? A. This represents what is known as an oscillogram. It is a photostatic copy of the actual film record which is obtained from an electrical device known as an oscillograph. In this particular case this instrument is an automatic oscillograph.

Q. What are the two instances shown on the record in the chart? Are these instances of trouble that have been recorded on the oscillograph? A. Yes, they are.

6868 *Stanley Stokes—By Respondents—Direct*

Q. Before attempting to describe it generally, I would like to offer this in evidence, and I simply want you to state whether this is a true and correct record of the particular instances which the diagram purports to represent in so far as you are able to make that statement? A. This is. This is an actual photographic copy of an instance which occurred in operation, illustrating a typical type of trouble, and the analysis thereof.

Q. The facts shown are taken from the records of the

6869 —2,920—

Union Electric Group? A. They are, they are taken from the records of our department which handles cases of transmission line trouble of this type.

Mr. Hamilton: I offer the diagram in evidence as Respondents' Exhibit No. 55.

Mr. Odell: No objection.

The Examiner: It is so admitted under the number mentioned.

(Respondents' Exhibit No. 55 was received in

6870 evidence.)

By Mr. Hamilton:

Q. Will you refer to the various abbreviations appearing in the left-hand column of the exhibit, Exhibit No. 55, and explain their meaning? A. The first abbreviation there with the figure "1" and the Greek letter "Phi", refers to phase No. 1, and you read it phase No. 1 to neutral volts, meaning that the wavy line on the top of the chart is an indication of the voltage between phase No. 1 and ground, or neutral, the neutral being grounded.

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The next abbreviation below that indicated as "Ven. Page No. 1 Grd. Cur." refers to Venice-Page circuit No. 1, and the wavy line shown is a measure of the current to ground in that circuit during a fault condition.

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The next abbreviation, "Cah. Ven. No. 1. Grd. Cur." refers to Cahokia-Venice, Line No. 1, ground current, the current itself being indicated again by the oscillogram.

Q. In order to shorten your statement, will you merely read, without abbreviations, the balance of the detail shown 6872
in the left-hand column? A. The next line below is Cahokia-Venice No. 2 circuit, ground current.

Incidentally, these Cahokia-Venice circuits are the 66 kv. tie-lines between the Cahokia plant and the Venice plant, which were referred to many times in our previous discussion.

The next statement below in the left-hand column is Bus Tie, Ground Current.

The next one below that is Venice-Stallings No. 1 circuit, ground current. The Venice-Stallings circuit is one of the 6873
66,000-volt steel tower transmission lines leaving the Venice plant, and supplying service to the Illinois-Iowa Power Company.

On the same side of the chart and further down we read North Bus Potential, phase 1 to phase 2.

Below that, Cahokia-Rivermines, circuit No. 1.

Below that, Cahokia-Belleville, circuit No. 1.

Below that, Cahokia-Rivermines, circuit No. 2.

Below that, Cahokia transformer banks Nos. 1 and 2.

—2,922—

6874 *Stanley Stokes—By Respondents—Direct*

At the bottom, South Bus Potential, phase 2 to phase 3.

Q. Now state, if you will, what the oscillograph is, what it does, and what the significance of this particular collection of lines shown is, as related to the operation of your system? A. An oscillograph itself is not a very recent de-

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vice, it has been used in various forms for many years to obtain a photographic record of a varying current.

6875 The application of the automatic oscillograph, which is left in continuous contact with the main transmission circuit or power plant, is a relatively recent idea, and with the intention of improving our service by obtaining more knowledge of what took place, when an outage occurred, we installed one of these devices. They are relatively expensive. I think they cost on the order of $3,000. As the results of the first one were so very good, and we learned so much about the operation of our relays and switches, we gradually extended them until we now have eight, at the major points on the system where switching occurs.

6876 The automatic oscillograph gets into operation within less than a half cycle after trouble occurs on the line. In other words, it gets into operation within 1/150 of a second, and from there on it records all the operations which take place in a very short interval of time.

On this particular chart, all the trouble is over and the system has been restored to normal by the time you read from left to right through the numbers at the bottom of the dark part of the chart, and get to No. 5. In other words, that is about three inches of the chart there, and the system service is back to normal and the total elapsed time up to

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No. 5 is 16 cycles, or 16/60 of a second, in which all of these

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things have taken place.

Now, there is no other known way of determining, in a case of this kind, what really happened, and I should like to describe a case of trouble to which this refers, and outline how we were able to improve the service by reason of the knowledge obtained.

In this particular case there was a circuit interruption on the Cahokia-Venice No. 1 line on December 14, 1937. That line, while carrying 58,000 kilowatts of load, relayed at Cahokia and Venice, at 6:14 p. m. the circuit was cleared rapidly at both ends by balanced type relays known as the RDC type. These are what are called phase balance relays, in which the current in one phase is balanced against the current in another phase. The number of this particular relay was No. 3 Group.

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No load was lost since the No. 2 circuit, that is the parallel circuit, immediately picked up all loads with slight disturbance to the system.

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At 7:50 p. m., the patrol crews reported the ground wire on No. 1 circuit had come down between Towers 4 and 5 within one mile from Cahokia. At 10:35 p. m., the broken wire was cut out, the hanging ends tied up temporarily, the circuit closed at Cahokia and Venice, restoring the system to normal.

Keep in mind that there was no load lost during this operation.

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6880 *Stanley Stokes—By Respondents—Direct*

The oscillograph records from Cahokia and Venice show that the No. 3 phase, which is the bottom wire on the tower, only, was involved with the ground wire. This would indicate that the ground wire broke and fell and contacted the bottom conductor as it went down. Inspection made on a portion of the conductor showed the outer strands to be broken in numerous places, which indicated that the ground wire had broken from mechanical reasons.

Copies of the oscillograph record from Cahokia and
6881 Venice showed that the line cleared at Cahokia in slightly less than five cycles, .078 of a second, and at Venice, one cycle later. The total ground current at the fault attained a maximum value of 10,200 amperes, which is equivalent to 1,160,000 k. v. a., three phase.

It is of interest to note that the fault in this instance was of greater magnitude than any other previously recorded.

Now, to describe the oscillogram itself, if we examine the condition marked No. 1 along the bottom of the dark part of the chart, and refer to the typewritten matter on the right hand side, near the top, you will observe that at Condition 1,
6882 which is 2½ cycles from the start of the chart, and you read this chart from left to right, starting at the left hand edge and measuring from one of the little wavy points to the next one is a cycle, or from the middle of one to the middle of the next one is a cycle, that is, until you get to the same position

in the current wave from one to the next—then you have completed a cycle. If you started at the top, you would simply go to the next top, or if you started in the middle, you would go to the bottom, back to the top, and then down to the middle again.

So in Condition No. 1 we have completed 2½ cycles from the beginning of the disturbance, and at that point the current and voltage use are stated in the table just below in the middle of the right hand side.

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For example, the voltage from the phase No. 1 to neutral or ground, which is the same thing in this case, was 36,750 volts, at condition No. 1. That is, at that instant. A little later, at condition No. 3, which is 5½ cycles from the beginning of the chart, the voltage has risen to 37,700, and by 6884
condition No. 5, by that time, which is 16 cycles later, full voltage is again on the system. That 40,300 volts represents the full voltage from phase to ground on a 66 or 69 kv. system. I should explain that this 66 kv. represents the voltage between wires, and from the neutral or mid point of a 66,000-volt triangle, the voltage measured to either leg from the center would be 40,060 volts, which is arrived at by taking 66,000 volts and dividing it by the square root of 3.

Now, at condition No. 3, which was 4.25 cycles from the start of the disturbance, the Cahokia-Venice No. 1 circuit 6885
was cleared by the oil switch at Cahokia. That is very rapid clearance to clear the circuit in 4.25 cycles. By condition No. 4, which was 6¼ cycles from the beginning, the Cahokia-Venice No. 1 line cleared at Venice.

So you will observe by looking at these various amperes which I shall read from this chart that Venice-Page No. 1 circuit had, at 2½ cycles after the start, 1,173 amperes to ground which decreased to 913 at condition 3, which is 5½ cycles from the beginning, and went to zero. In other words,

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the circuit cleared before we got to the next checking point which was condition No. 5.

—2,928—

In a similar manner, the other currents can all be observed from the table showing that in one case the Cahokia-Venice No. 2 current supplied from that circuit built up to 2,430 amperes at about 5½ cycles from the beginning.

If you look at the wavy lines on the chart, I should explain that the height of those lines above the center of the
6887 axis is proportional to either the voltage or current, and we have constants that permit us to measure that. When the line opposite Venice-Page No. 1 ground current, as shown on the left, becomes a straight line and ceases to have any wiggle, then that means that the current has gone to zero, and you will notice just before it cleared that the current rose to a very high value.

Now, the net result of this thing, without going into a further detail, is that at the top of this chart we have the complete record of everything that took place at Venice, and in a similar manner, the lighter part of the chart below
6888 is the record of everything that took place at Cahokia on these circuits, with respect to the switching, and we know that the Cahokia switch is cleared first in 4½ cycles, and that the Venice in 6¼, and we know what value of ground currents and short circuits we have to deal with.

For example, we can state from this record that the short circuit was 1,160,000 k. v. a., which would make it questionable as to whether we could count on 1,000,000 k. v. a. switches or breakers. In our new plant we are actually

—2,929—

installing 1½ million k. v. a. breakers.

The conclusion to be drawn from this thing is simply this, that during a period of less than 1 10 of a second, there were a large number of operations which took place, and before we had this type of instrument we had no more idea, we had no idea whatever, as to which one took place, or whether they cleared as they should or not, and this permits us to check the performance of our relays, our switches, and in general is the thing that permits intelligent maintenance and operation of the equipment.

I should explain that in this instrument there are a 6890
number of different elements, each is a little individual mirror which operates when the current itself is thrown into the instrument, and that mirror moves a beam of light, which produces this wavy line on the film, and each of these little elements can be connected into any circuit when desired, and although we show the current for Venice-Stallings No. 1, it wasn't in trouble and nothing happened. That is the bottom line on the top part of the chart. It was zero all the way. There was nothing going on, but the oscillograph was connected in that circuit.

It also tells us that the No. 2 Venice-Cahokia line, which 6891
fed into this same short by reason of the fact that the phases are connected at both Venice and Cahokia, so that any fault

—2,930—

on No. 1 line would be fed from each end of itself, and each end would also be fed from the corresponding line, and if you will look down at the bottom chart, you can see that the Cahokia transformer banks fed in at condition No. 1, 7,870 amperes, and that the bus tie at Venice, at condition No. 3, transferred 3,360 amperes into the fault.

—2,931—

That I believe is taken to illustrate the application of these instruments, and in turn illustrate the fact that we are making every effort to improve our system operation.

Q. Did I understand you to say that the particular disturbance recorded did not result in an interruption of service? A. None whatever, the parallel [redacted] continued to function right straight through, and if you will observe in the bottom chart, the table to the right of the bottom chart, the top line is marked potential from phase 1 to phase 2, and
6893 the voltage there is shown as condition No. 1—68,200 volts, 67,000 volts, and 69,700 volts. So that that shows that the potential was normal between those two phases, and the other circuit was not particularly affected at any time.

Q. Had the disturbance occurred prior to the oscillograph, would you have been aware of the existence of the disturbances? A. Yes, we would have known there had been a disturbance all right, and if the switches had cleared all right we wouldn't have known just how they functioned, and if they had failed to clear we would have had no record as to why. The principal advantage of this chart is to permit
6894 the intelligent knowledge of what has taken place so as to apply it to future occurrences, and to avoid anything that isn't right.

Now in this particular operation here, all the equipment worked correctly, but if it had not done so, we would have learned from this chart.

—2,932—

I should like very briefly to describe one or two other cases without extending them at all, to show what the oscillograph does for us.

6895

An outstanding example of the value of such an instrument was demonstrated by an outage experienced on the 132 kv. transmission line between Osage and Page Avenue. In this instance the line trip-out occurred simultaneously with the flash over of a generator at the Osage plant, and it was generally believed that the line trip-out was due to incorrect relay setting and as a result of the machine failure. That was our conclusion as a group of engineers analyzing the trouble. When the film from the oscillograph was developed, it showed conclusively that a lightning stroke had 6896
first involved the line conductor, and that the line had relayed properly, and that the attendant surge as a result of the lightning stroke, had caused the machine to flash over. In other words, that there was a lightning stroke, and that the machine flash over was the result and not the cause of the trouble.

Many times an incorrect conclusion like that from a case of trouble will cause the operating group to go out and change the setting of relays, which in themselves were originally correct.

Another case which illustrates that occurred at the Cahokia Rivermines 132 kv. circuits. Both circuits relayed simul- 6897
taneously at Cahokia and Rivermines. First reports indicated a flash over of one circuit from lightning which would

in this particular case have indicated an incorrect relay operation from the other circuit. It should not have gone out and it did. That was a relatively short time after we had put in this new system connecting Osage, and we were much disturbed about it because we thought we had done a very careful job on those relays.

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When the oscillograph record was obtained it showed that in addition to this stroke of lightning which we assumed was the only one, that there had been another lightning stroke within 3/100ths of a second after the first, and on the second circuit at a point 20 miles away.

We sent the patrolman up there and located the trouble.

Now that proved that the relays operated correctly, and that there were two cases of trouble at the same time, only one of which did we know about. The damage at the tower
6899 was located, which proved conclusively that the lightning had struck the other line.

The oscillograph by the way permits knowledge of this ground current and a knowledge of our ground resistances, which we keep, permits us to anticipate the location of the trouble and in many cases the man who works up this chart is able to predict the trouble within three or four spans. We can't guarantee that accuracy, but it has occurred that he has predicted the trouble very closely.

In one case we sent the patrol crew out for the third time

—2,934—

6900 before they found it, basing our conclusions entirely on the fact that it ought to be there as shown by the chart.

That is an illustration of the efforts that are made to maintain reliable service.

Q. Can you tell us approximately when the oscillographs were installed? A. I think these particular ones have been added gradually for the past four or five years. The first one I think was put in about five years ago.

This Rivermines case was the first we had, I think, and that might have been six years, but it is more likely to be five.

—2,935—

6901

Q. Are you able to give us any other comparisons indicating improvements in service over a period of years? A. Yes, from our records we can provide indications of the nature of improvements in the service. I shall read a couple of figures which I have worked up here, and placed in a table, to illustrate this point.

The average rate of failure of distribution transformers in 1930 was 15 per thousand transformers per year. In 1939, the rate had dropped to 6 transformer failures per one thousand transformers, an improvement of 60 per cent.

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In 1930 there were 15 cases of distribution wire down per thousand miles of distribution wire in service, as against 6 cases in 1939, or an improvement of 60 per cent.

I have one or two other statistics that I think are worth mentioning to show the improvement.

In our cables in the voltages of 2,300/4,000, up to and including 6,600 volts, the failures per hundred miles of cable per year in 1930 were 21, and by 1939 that had been reduced to 15, an improvement of 28.6 per cent.

In the operating voltage of the 13,000 range, the failures in 1930 were 18, and are now 16, an 11.1 per cent. improvement.

6903

In the 33 kv. cable failures per 100 miles, per year, in 1930 were 42, as against 9 in 1939, an improvement of 78.5 per cent. That was largely due to improvement in the method of making the cable joints.

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Now in interruptions per circuit in the distribution circuits, these are the ones that affect the customers' service more than the others, because these transmission interrup-

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tions as a rule are taken care of by alternate circuits, but in some of these interruptions which I now indicate, the customers' service would be affected.

In the low voltage class, 6,600 volts and below, the interruptions per circuit were, for 1934—.3 per circuit per year, which had been reduced to .1 by 1939, an improvement of 66.7 per cent.

In the 13,000 volt class of circuits, the interruptions for 1934 were .65, and by 1939 they were .33—again a 49.3 per
6905 cent. improvement.

In the 33 kv. class, the interruptions were .7 for 1934, and .25 for 1939, an improvement of 64.3 per cent.

To interpret these very briefly, to see what they mean, there were 6 transformer failures per thousand transformers in service in the year 1939. The probability is that we may expect one failure every 166 transformer years. Again, with an average interruption per circuit for 1939 of 0.1, another way of stressing that would be that we will, on the average, have one circuit interrupted every ten years.

The above examples of reductions in equipment failures
6906 and circuit interruptions are typical of the results of con-

—2,937—

tinuous efforts by the operating and engineering personnel to analyze troubles and eliminate or reduce, in so far as possible, the causes of such troubles and thereby improve the service rendered to the customer.

The Examiner: We will recess until 2 o'clock.

(Whereupon, at 12:35 o'clock p. m., a recess was taken until 2 o'clock p. m., of the same day.)

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AFTERNOON SESSION

(The hearing was resumed at 2 o'clock p. m.)

The Examiner: Let the hearing come to order.

Whereupon, STANLEY STOKES resumed the stand and testified further as follows:

Direct Examination by Mr. Hamilton (Continued):

Q. Are you able to give us, Mr. Stokes, any statistics in- 6908
dicating the trend of service calls per customer over a period of years? A. Yes, I have examined the records of the trend of customer service calls, and have noted a consistent reduction in the number of service calls per year. This indicates an improvement in the grade of service rendered.

The total records for the customers for the City of St. Louis, commercial and residential classes, have been examined, and I would like to produce the figures for the year 1917, and at 5-year intervals since then, approximately.

I won't read all the detailed figures, but in the year 1917 the service calls per customer, per year, for that year, were 6909
.907; in the year 1922, five years later, they had declined to .329. By 1927, they had become .202. In 1932, they were .191, and by 1940 they had, for the 9 months to date, become .170. That is the annual rate, however.

—2,939—

Q. In the case of 1940? A. Yes. It is at the rate, however, of .170 per year, which is consistent with the other figures.

This represents an average interval between calls for a single customer of—in 1940—5 years and 10.6 months. This

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corresponds to an interval of one year 1.2 months elapsed between calls for 1917, which indicates an improvement in the service.

Q. These are trouble calls you are referring to? A. They are really trouble calls, yes, they are calls where the customer has inquired something about the service itself. I have eliminated miscellaneous calls about other subjects.

Among the features which I think are of interest in connection with good service, should be mentioned the free lamp
6911 renewal privileges. All lamps are not renewed free, but practically all of the sizes that are in regular use, are, in the residential service. That has a beneficial effect from the power company's viewpoint, that the customer keeps the sockets filled up and keeps lamps where they should be.

Q. Do you happen to know whether the Illinois Commerce Commission has established ratings for service as among electric utility companies? A. Yes, in Illinois there is a specific method set out by the Illinois Commerce Commission for rating the quality of service rendered.

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6912 Q. Has Union Electric Company of Illinois been so rated, and if so, how? A. Yes, the Union Electric Company of Illinois has been rated. Pursuant to what is known in Illinois as General Order No. 65, the Commission established an engineering section whose duties are to investigate and determine the grades of service rendered by the various utilities throughout the State.

Service engineers visit the various companies, examine their records which are required by their order to be kept, and the examination includes such items as continuity of

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service, voltage regulation, meter testing, maintenance, and some other less important items.

They have quite a crew of service engineers, who go around to different cities and locations, and set their own meters, make measurements, and examine the records, and as a result of which, by a method which they have worked out, they determine, by weighting these different factors, what grade of service is being rendered, and they give reports each year, or almost every year.

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In this case the Union Electric Company of Illinois, in the Commission's report of "Grades for Electric Service", dated February 1, 1940, compiled from the latest grades assigned prior to January 1, 1940, the Union Electric Company of Illinois was ranked next to the highest in the State

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among 29 Class A companies—those are the large companies. The grade itself was 96.44.

In addition to grading the companies themselves, they also grade the service rendered in the different cities. The highest grade in Illinois for that year for service in a Class A City—that is the larger cities—went to the City of Alton, Illinois, served by the Union Electric Company of Illinois, with a grade of 96.86. That rating was just a little higher than Chicago.

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In the first five cities in this group, the Union Electric Company of Illinois had two of its towns included, Alton and East St. Louis.

This grading, by an impartial authority, indicates a high standard, the high standard of service being furnished by this company.

We have no similar method of grading established in Missouri.

—2,942—

Q. Turn now to the operating staff of the Group, Mr. Stokes, and I would like to have you describe briefly the names, capacities and functions of the principal members of that staff, excluding, if you will, the higher executive officers, who wil' be covered subsequently by a later witness. Will you proceed with that description? A. Starting first with
6917 the secretary of the Union Electric Company of Missouri, his name is Frank J. Meistrell. Mr. Meistrell is 38 years of age, entered the service of the company in 1940, was educated at Princeton University, Brooklyn Law School and Harvard Law School. Besides serving as secretary for Union Electric Company of Missouri, he is also secretary of the following companies: Union Electric Company of Illinois; Iowa Union Electric Company; Mississippi River Power Company; The St. Louis County Gas Company; the Union Electric Land and Development Company; and the Cupples Station Light, Heat and Power Company.

6918 As secretary, he is in charge of the corporate records of the companies and the records of the boards of directors. He records the minutes of the meetings of stockholders and directors, and performs other functions specifically assigned to him. He is aided by Eugene R. Kropp, assistant secretary.

He is assistant secretary of the same group of companies previously mentioned. He is 40 years of age and has been with the company 17 years, 8 of which are in his present position. He is a native of St. Louis, attended Washington

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University. Mr. Kropp had the title of assistant to the secretary from 1923 to 1932, before becoming assistant secretary.

The treasurer of the Union Electric Group, the same group of companies, is Mr. John L. Ganz. As the chief financial officer of the company, Mr. Ganz, who is 57 years of age, has been, for 20 years, in his present position, and for 34 years associated with the company. He studied mechanical and electrical engineering at the University of Missouri. From 1906 to 1909, Mr. Ganz worked in the drafting office; 6920
from 1909 to 1916, he was shop foreman of the motor department; in 1917, machine foreman; from 1917 to 1920, he acted as attorney; and from 1920 to date, as treasurer.

Mr. Ganz performs the treasurer's duties for the group of companies mentioned, and assists, advises and cooperates with the assistant treasurers in St. Louis County, Missouri, East St. Louis, Illinois, and Keokuk, Iowa.

Chiefly, his functions are to execute all documents and certificates requiring the signature of the treasurer, such as Federal income and capital stock tax returns, certificates required by trustees, etc. 6921

His duties are to open and establish the deposit and distribution of funds, and in general carry on all contacts with banks relating to company funds; to sign or countersign voucher checks and various special accounts checks; to supervise or carry on all correspondence with holders of pre-

ferred stock; to carry on all correspondence with customers involved in intentional or unintentional diversion of electric service; to jointly with the secretary maintain a record of the

contents of the company's safe deposit boxes; appoint and supervise individual merchants as branch pay station agents; supervise the stenographic and mail delivery service to all departments in the main building.

In the performance of these functions, he is assisted by the following division heads and supervisors: the assistant treasurer, who also acts as claim agent; the assistant claim agent; cashier; general clerk; and supervisor of special inspectors.

6923 Assisting the treasurer in the handling of personal injury and property damage claims is Mr. George H. Hartwein. He is 51 years of age, and a native of Missouri. Four of his 14 years of service have been in his present position. From 1926 to 1936, Mr. Hartwein acted as attorney, and from 1936 to date has been assistant treasurer of the Union Electric Company of Missouri, and subsidiary companies, as well as the St. Louis County Gas Company.

His functions include the handling of personal injury and property damage claims, the signing and distribution of general employe pay checks, and the handling of garnish-
6924 ment proceedings.

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He also takes care of all employe accident claims relating to employes of the Union Electric Company of Missouri, employed in the city of St. Louis, at Rivermines plant, and at the Osage plant, and also those employes of Union Electric Company of Illinois who work at the Cahokia and Venice plants.

Another one of his duties is the preparation of reports of accidents involving any of the companies' automobiles.

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Active in claims work and working with Mr. Hartwein, is Mr. Herbert W. Harbison, Jr. Mr. Harbison is assistant claim agent, 33 years of age, and a St. Louisan. His employment by the company totals 11 years, and his occupancy of his present position—four years. He came with the company in 1929 as intermediate accountant in the accounting department. He served in 1930 as a junior accountant, and from 1930 to 1936, as accountant for the east side properties.

In 1936 he did some work as a valuation accountant before becoming assistant claim agent in that year.

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He cooperates with the assistant treasurer, Mr. Hartwein, in the various matters which I have previously listed as under his direction. In addition, he keeps a record of bonds and bond interest coupons outstanding, and cremated, of the Union Electric Company of Missouri, Mississippi River Power Company and the Keokuk Electric Company, which is a predecessor of the present Iowa Union Electric Company.

He also procures certificates of title and licenses for

—2,946—

automobiles, and handles the issuance of the executive payroll checks and keeps records in connection therewith.

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The general clerk of the treasury department is Mr. Herbert H. Bindbeutel, who is 35 years old, a St. Louisan, has been with the company for 20 years, and has held his present position for 12 years.

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He started with the Union Electric Company as an office boy in 1920, and progressed through the functions of junior clerk and collector, outside messenger, senior assistant book-

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keeper, preferred stock bookkeeper, and general clerk, to his present position as supervisor and general clerk.

His principal duties are to obtain signatures on all voucher checks, and certain mail, and to record and report the disbursements thereof for the complete list of companies represented by the Union Electric Group.

He also maintains a dividend list of preferred stockholders. He keeps the common stock register and stock certificate books of the Union Electric Company of Missouri, and
6929 subsidiary companies, and keeps the transfer agents supplied with the necessary information received from shareholders, and prepares and files reports to the Internal Revenue Department on bond ownership, and file State and Federal information on returns for all companies, affiliates and subsidiaries.

The cashier for the company is Michael J. King. We always call him Mike King. He has been with the company ever since anybody can remember. He is now 64 years of age and has worked for the company 46 years, 20 of which have been in his present position.

6930 He was employed by the old Missouri Edison Electric Company at the time of its consolidation. From 1894 to 1908 he held a position in the collection department. During

the years 1908 to 1920, he was assistant cashier, and has been cashier from then until the present time. I have known Mr. King for about 20 some-odd years.

This group, of which he has charge, receives all remittances and payments made to the company from all divisions of the company to which money comes in. He handles

the banking for East St. Louis and transfers accounts from the Alton banks to the St. Louis depositories; also some deposits are made for the Iowa companies in St. Louis.

Minimum bank balances are maintained in St. Louis County, and outlying divisions, and the East St. Louis and Alton division; and the cashier's division handles the transfer accounts to the St. Louis banks. It also handles all city division expense accounts, some for the outlying divisions, and the electric portion of the St. Louis County Gas Company. 6932

I think I can explain that. From what are called the cashier's working funds account—they have an arrangement in St. Louis County wherein customers who have both gas and electric, can pay their bills to either company, I mean you only have to send one envelope, and the company makes the transfer of cash and sends it back. If the electric company receives both the gas and electric bill, they turn over the gas part to the gas company. It saves the customer making two separate remittances, and two postage payments.

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Special investigations are handled by a separate group 6933 under the direction of Vernon J. Goodwin, who is 52 years old, and has been with the company 27 years, 4 of which have been in his present position. He served in various capacities, as repairman, 1913; trouble man from 1914 to 1915; clerk from 1915 to 1920; meter installer from 1920 to 1925; and as inspector until 1927; adjuster until 1936; and supervisor of special inspectors since that time.

The special investigations group handles current theft cases, and irregular connections resulting in unmetered service. They make estimates of the amount owed to the com-

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pany for unmetered service, and carry on negotiations with customers for the collection of such amounts. They also make confidential investigations of frauds which may be perpetrated against the company.

The president of the company has an assistant, Mr. Walter G. Heren. Mr. Heren functions as special assistant to carry out any instructions the president may have, and upon certain occasions he acts as assistant secretary for the Union Electric Company of Missouri, Union Electric Com-
6935 pany of Illinois, and the Mississippi River Power Company. He is 40 years of age and has lived most of his life in Missouri.

The comptroller of the Union Electric Company of Missouri and the St. Louis County Gas Company, is Mr. Alwin H. Schettler.

He is the chief accounting officer of the company, and

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supervises through six department heads, all reporting direct to him, all of the accounting functions and correlated
6936 subjects for Union Electric Company of Missouri, and subsidiary companies, and the St. Louis County Gas Company.

His supervision extends over 347 employees in the following six departments:

General Auditor's Department, Fiscal and Statistical Department; Accounting Department; Valuation Department; Budget Department; and Tax Supervisor's Department.

Mr. Schettler is 40 years old, and has lived his entire life in St. Louis. He is a certified public accountant of St. Louis, received his Bachelor of Science degree in Commerce

at Washington University, and his Master's Degree at Northwestern University.

Prior to his employment with the Union Electric Group, he was a member of the staff of Price Waterhouse & Company for more than 15 years.

The general auditor of the electric company, that is, the Union Electric Company of Missouri, and the St. Louis Gas Company, is Mr. William Avery. His functions are to review currently financial and operating reports. He conducts operating cost studies and periodically scans accounting pro- 6938
cedures in an attempt to obtain a more uniform application of those methods.

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Mr. Avery also analyzes various accounts and develops or reviews the bases for allocation of costs or other apportionments for recording in the accounts of the respective companies.

He performs special assignments for the comptroller, which are outside of the scope of ordinary routine of the other accounting departments. Mr. Avery has three assis- 6939
tants, two small groups of auditors totalling 11 employes, called the Internal Audit Group, and the Stores Audit Group. They report to him. He is 51 years old and is a native of Missouri, having been born in St. Louis. He has been with the company for 36 years, 21 of which have been in his present position as general auditor.

The Internal Audit Group is directed primarily to the verification of all balance sheet and income accounts. The Stores Audit Group performs all stores auditing duties for all companies of the group and the St. Louis County Gas Company.

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Those are primarily the reconciliation of stock balances, and a general check-up and examination of stores department records and procedure.

The fiscal and statistical auditor of the Union Electric Company of Missouri, and the St. Louis County Gas Company, is Mr. Eugene J. Shapiro, who is 36 years old, has been in service with the group for 15 years, five of which were in his present position. He is a St. Louisan, received a degree

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6941 of Master of Bachelor in Commerce at Washington University, and was first employed as valuation clerk in 1926.

There are 15 employes reporting to him or engaged in the following activities: preparation of data required by Federal regulatory bodies, including particularly the Securities Exchange Commission, the Federal Power Commission and the Interstate Commerce Commission; the preparation of data required by two State regulatory bodies, the Public Service Commission of Missouri and the Illinois Commerce Commission; the preparation of information required by the New York Stock Exchange; compliance with requirements of State

6942 and Federal regulatory laws, and with the requirements of trust indentures of all companies; also the preparation of data required in connection with any redemption or maturity of outstanding securities, and the preparation of data for a large number of statistical reports and general questionnaires, including reports to stockholders and various other agencies; preparation of various balance sheets and other financial schedules of the Union Electric Group of companies; the preparation of certain data, complete monthly reports to boards of directors of the Union Electric Company of Missouri, and the St. Louis County Gas Company, and a review

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of data on income and miscellaneous matters to be included in minutes of the meetings of the boards of directors of the various companies.

The operating auditor of the Union Electric Company of

Missouri and the St. Louis County Gas Company is Mr. Everett J. Emberson.

He was first employed by the group of companies in 1920, as junior accountant. The functions of the operating auditor include the supervision of the general accounting division, 6944 the St. Louis City billing division, the St. Louis City credit, adjustment and collection division, and the meter reading division.

General accounting Division operates under Mr. William P. Crowley, assistant operating auditor. He is 39 years of age and has been with the company 24 years, three of which are in his present position. He is a St. Louisan by birth, started with the company as an office boy in 1916.

The general accounting division performs accounting work for the following group of companies, which includes 6945 the entire group of Union Electric Company of Missouri and subsidiaries and affiliated companies—I will not list them.

In addition to the above, the accounting division acts in a supervisory capacity for the accounting department of the Mississippi River Power Company and the Iowa Union Electric Company, and in a consulting capacity for the St. Louis County Gas Company.

The work performed by this division is in general that performed by any other accounting division, and I will merely indicate one or two items. It includes the prepara-

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tion and inspection of entries, compiling trial balances, maintaining general ledgers, subsidiary ledgers and other subsidiary records; the preparation of condensed income accounts and balance sheets, and financial and operating reports.

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They assist in the preparation of a large group of other data which includes the various schedules for annual reports to the various commissions. Of course, they prepare the
6947 checks for payment of all invoices, reimbursement of all working funds for the companies of the group, with the exception of the Mississippi River Power Company, Iowa Union Electric Company and the St. Louis County Gas Company.

They also maintain the social security records and make reports on those.

In addition to the regular accounting work for the Union Electric Group, they carry on the general books of the Utility Employes Savings & Loan Association. That is an organization similar to any other savings and loan association, except that it is for the Union Electric Group employes.
6948 It has been very successful over many years.

In the billing division Mr. Frank W. Phelps is in charge.

We have pretty well described the functions of the billing division, and the billing and contract accounts group, and I won't go clear through the operations, but he has complete charge of that group of work. He is 38 years old and has been in the service of the company for 18 years, six of which have been in his present position as chief clerk of the billing division.

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He is a Missourian, started with the company in 1922 as junior accountant, and served in various accounting positions in St. Louis and East St. Louis, becoming chief clerk in 1934.

The chief clerk of the credit, adjustment and collection division is Oscar J. Vosbrink. Again we have discussed the operations of the credit and collection division rather extensively, shown how it functioned. There are 68 persons reporting to Mr. Vosbrink in this division, including an adjustment group, a collection and outside adjustment 6950
group, a credit group, a credit and final bill group, a special assignments group, and the last group performs miscellaneous work which is carried on for the chief clerk.

He has occupied his present position for six of the 15 years he has been with the company. He is 38 years of age and a native St. Louisan, and was first employed as utility accountant in 1926. He subsequently filled other accounting positions, until he came to his present position in 1934.

As previously discussed, the billing division is carried on in connection with the collection and credit work, and the foreman of the meter reading division is George P. Zbaren. 6951
He has about 50 people under his supervision, and is charged with obtaining the reading of all electric meters in the city of St. Louis.

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Some of his employes form the addressograph group, and maintain that part of the work as well as the meter reading.

—2,957—

He is 52 years old, has been in the employ of the company as meter reader foreman for 23 years.

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The valuation auditor is Mr. Harold W. Ross. He has served in this capacity for 5 of the 6 years he has been with the company. He is 51 years of age, a native of Illinois, and presently resides in St. Louis.

Prior to his employment by the Group of companies, he had been chief accountant of the Missouri Public Service Commission for 7 years, and had 17 years valuation and regulatory experience with that Commission, and the Interstate Commerce Commission.

6953 The valuation department, consisting of 30 employees, is directly under his supervision, and includes three groups whose principal functions relate to work orders. Different companies have different names for those, but those are the orders which approve the expenditure for property and plant. He also has under his supervision property accounts, appraisals and valuations—those are the groups.

This department makes contact with State and Federal regulatory authorities in matters pertaining to property accounts, appraisals and valuations. They perform the functions for the Union Electric Group as a whole.

6954 The work order group controls and audits work order expenditures, checks work estimates, and the proper accounting therefor, and maintains a current record of these work

orders. The work order is the source of authority for all expenditures for property and plant. In other words, if I want to put in a sub-station, estimates are drawn up and completed and put on what we call the work order form, and that is submitted to the management for approval. It then goes to the valuation department for various checking, and becomes the authority for the expenditure.

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That work order group prepares monthly journal vouchers to record the provisions for current depreciation for all companies except the Mississippi River Power Company, Iowa Union Electric Company, Union Colliery Company, and St. Louis County Gas Company.

In the property accounts group is developed and maintained the continuing property records for all companies except Mississippi River Power Company, Iowa Union Electric Company, Union Colliery Company, St. Louis & Belleville Electric Railway Company, and St. Louis & Alton Rail- 6956
way Company. These companies at present do not have continuing detailed property records.

This group analyzes and verifies the accounting for all plant expenditures and retirements, and makes the necessary analyses for proper capitalization of general construction overhead.

Plant expenditures and retirements are summarized by established property units and are currently recorded in a

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continuing property record, which is kept in balance by summarization into the plant accounts, prescribed by regulatory 6957
authorities. You understand what I mean by continuing property records? That is, they keep a record of every item that is added to the property and plant, in detail, both as to the physical property and valuation, and remove and keep a record of removals of all the property withdrawn.

Among other things, this group develops and maintains physical property statistics which are used as the basis for reports to regulatory authorities, and for many other purposes. It also makes depreciation studies and assists in making appraisals.

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The property accounts group has been engaged in the determination of original cost of physical property as required by Federal and State authorities, and in the reclassification thereof into prescribed accounts. All schedules and data required by regulatory authorities have been prepared and filed, and the necessary entries to record the various classifications are in the process of preparation.

The appraisals and valuations group makes all appraisals of property. At the present time this group is engaged in
6959 an appraisal of the property of the St. Louis County Gas Company, in accordance with an order of the Missouri Public Service Commission.

The next division to be discussed is the budget depart-
—2,960—
ment, of which the head is the budget auditor, Mr. Arthur P. Lucchesi. I have known him for many years or I wouldn't be able to pronounce that word.

He is 44 years old and has been with the company for 27 years, 5 of which have been in his present position as budget auditor.

6960 He has had various positions. He was employed in the billings department in 1913, and has held many positions in the accounting department and in the billing division before becoming assistant general auditor in 1922, and budget auditor in 1936.

The functions of the Budget Department, which includes 7 other employees, consists of the preparation of operating estimates, summarization of and the maintaining of control records for construction and retirement budget; summarization, coordination and the maintaining of control records

for the operating and payroll budget; and the preparation of cash budget requirements, as well as other cash estimates.

The tax supervisor's department is headed by Mr. Walter S. Alt, with a title of tax supervisor. His work is for the Union Electric Company of Missouri and subsidiaries, and the St. Louis County Gas Company.

He is 49 years of age, and an attorney, and for the last 18 years prior to his employment in this Group, had been connected with the Bureau of Internal Revenue, the last 6

—2,961— 6962

years as a member of the Bureau's technical staff.

His department consists of 8 employees, and he is charged with the duty of preparing all Federal, State and local tax returns, with the exception of real estate and personal property tax, city of St. Louis merchants' and manufacturers' license tax, Missouri, Illinois and Iowa annual reports, and Missouri franchise tax returns.

As an example of the types of returns which are required —I won't attempt to list them all—but they are all under his supervision. We have, under "Federal": income tax, capital stock tax, electrical energy tax, admissions tax—— 6963

Q. (Interposing) I don't think you need to go through that. A. All right, that is just a percentage of them.

That department has some other routine duties in addition to their tax return work, all having to do with tax records in one form or another.

The next gentleman under discussion is myself. I have already qualified, and I don't know as any further discussion of my position is necessary.

My department is a small group of highly technical engineers with Mr. Harold Gove as my assistant. He is 35

years of age and has been in the employ of the company for 11 years. He is a native Missourian and graduated from Missouri University in 1929, with the degree of Bachelor of Science in Electrical Engineering.

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Subsequently, he obtained his Master's Degree in mathematics from Washington University in 1935. We permitted Mr. Gove to do some outside study in connection with his regular work because he was very proficient in mathematics,
6965 and we needed an engineer-mathematician. We found that a straight mathematician lacks too much knowledge about the practical application of the work, and altogether Mr. Gove has been sent to school off and on for approximately 8 years to study special mathematical application. It has been very helpful in our work.

He now makes all the transmission line calculations, stability studies, and things of that kind, as well as functioning as a general assistant.

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The director of industrial relations is Mr. W. D. Alder-
6966 son. The industrial relations department is responsible for employe relations activities, and we have in the group of companies an organization known as the Employes Mutual Benefit Association, which represents the employes in all of their dealings with the company, and as a part of that association activity, they have many types of benefits, such as doctors' services, dental services, employes' recreation clubs, and other related matters.

Mr. Alderson has charge of those activities. He is 59 years of age, has been in the employ of the company for 30

years, and in charge of the present type of work for 21 years. He is a native Missourian, has lived in St. Louis and St. Louis County all his life.

He has 23 permanent employes under his direction. In the summer months we operate an employes' club, and there are 23 more employes out there that report to Mr. Alderson when the club is in operation. His assistant, Mr. M. B. Mathis, is 39 years of age, has been in the employ of the company since 1922. He was first employed as secretarial clerk in the secretary's office, and has been assistant to Mr. 6968
Alderson for the past 17 years.

The employment division comes under the industrial relations department and takes applications for employment, interviews applicants and selects new employes. All requests

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for employes on the part of the company divisions come through this department. They maintain all employe records for the system, supervise the application of the wage schedule and salary adjustments for employes which are on what we call scheduled rates.

They report authorized payroll information to the various 6969
departments, and to the payroll division of the accounting department.

The medical division—of the industrial relations department is maintained at all times and embraces a medical office and district physician's services. A regular practicing physician is on duty in the medical office, one doctor in the morning an one in the afternoon, for examining new employees and for handling emergency cases in or near the building.

A nurse is on duty throughout the day. There are 24 regular practicing physicians in various districts throughout

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the St. Louis area, who provide ordinary medical service for employes and their immediate dependents. There are also four specialists on eye, ear, nose and throat disorders.

The industrial relations department maintains a service of this kind and sees to it that the employes get this service at reduced rates, or in many cases at no charge.

A similar type of operation applies to the dental division which also has offices in the main building, and includes one

—2267—

6971 dentist available all day, and an additional dentist in the afternoon. And the dentists have an assistant at all times.

Mr. Alderson supervises the safety program wherever contracts with the Employes' Mutual Benefit Association are in effect, except in the Keokuk district. This work is carried on through a central safety committee made up of employes from the various districts. There is also a safety coordinating committee which serves as a medium of obtaining action in the correction of hazards.

Most of the recreational activities throughout the company are cleared through Mr. Alderson's department.

6972 The general superintendent of electrical operations is Mr. George K. Miltenberger. He is directly responsible for operation of electrical power producing and transmitting facilities of the Union Electric Group. The following departments are under his supervision: Construction Department; Electrical Distribution; Electric Power Plants; Hydraulic Engineering—the Hydraulic Engineering Department is actually engaged in direct operating work, the name is somewhat misleading, but it carries on engineering work in hydraulic matters and operating work as well.

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The Osage Power Plant operating group reports to Mr. Miltenberger, the steam heating, stores and transmission department also.

He is 51 years of age, and has had 25 years of service

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with the company, 10 in his present position. He is a graduate mechanical engineer of Cornell University, and began work as power salesman in 1916. He is a native of St. Louis.

As assistant to Mr. Miltenberger is Mr. George P. Gamble. Mr Gamble is 41 years of age, has been with the company 6974
9 years, 5 of which has been in his present position.

Prior to his connection with the company, he was employed by Stone & Webster Engineering Corporation for a number of years on both construction and engineering work. He received his engineering degree from the University of Virginia, is a native of Richmond, Virginia. He acts as direct assistant to Mr. Miltenberger on any assignments.

A small construction group reports to the general superintendent of electrical operations—that is Mr. Miltenberger. The chief of this small group of construction people is Mr. Edward A. Rudulph, who is 45 years old, and had 9 years 6975
of service, in his present position. He is a native of Bowling Green, Ohio, and graduated with a degree in Civil Engineering from Rensselaer Polytechnic Institute.

Previously he was associated for a number of years with the Stone & Webster Engineering Corporation. He came with the Union Electric Group as assistant engineer in 1932, and now has the title of design engineer, and has had it since 1936.

The superintendent of electrical distribution is Mr. Chris

—2,967—

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H. Kraft. His department, which consists of 365 employes, is engaged in the engineering, construction and operation of electrical distribution system. This does not include the operation of the sub-stations themselves, which are under the power plant and sub-station division, which report to the preceding gentleman, Mr. Miitenberger.

We have already described the distribution department in some detail, and since it represents about 25 per cent. of the investment in the company's properties, its is obviously an
6977 extensive part of the system.

Mr. Kraft is 49 years old, a native of Missouri, has been with the company for 25 years, 15 in his present position.

I was instrumental in getting Mr. Kraft his job with the company. He was first employed as assistant in the general manager's office in the St. Louis County Division. He then worked as an operating engineer and as a superintendent of distribution. In 1920 he became distribution engineer with the St. Louis City Division, and then electrical engineer, and then assistant superintendent of electrical distribution, and finally his present position as superintendent of electrical dis-
6978 tribution for the City Division. He is a graduate of Missouri University.

The chief clerk in the distribution department under Mr. Kraft is Mr. Fred W. Blanche. The clerical division of the distribution department keeps the records and does all of

the office work for the entire department, maintains a daily record of the activities of the various construction crews, prepares estimates of the cost of construction and maintenance

work, has charge of the customer card records, and many other operations, some of which have been described.

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The supervision of the company's branch telephone exchanges is under Mr. Blanche's direction. He is 46 years of age, a native of St. Louis, has been with the company for 29 years, 14 of which have been in the position he now holds.

He went through the various jobs of drafting clerk, draftsman, chief record draftsman, engineering clerk, junior distribution engineer, and assistant distribution engineer, 6980 and then his present work.

You see, in a department of that kind, records are not only matters of typewritten form, but they also include a large group of charts and maps, load density maps, and records of pole lines on streets, and the record work there is a combination of map work as well as ordinary bookkeeping.

The operating superintendent in this division is Mr. Rollo C. Morris. You see the distribution division is divided into two basic parts, the construction and the operation. Morris is in charge of the operating part.

Under him are three major groups which may be described 6981 as operating engineering, emergency trouble dispatching, and emergency field force.

There are some minor groups representing appliance repairs and other features under him. Mr. Morris is 49 years of age, a native Missourian and has been with the company 20 years, 15 years of which have been in his present position.

I have very frequent contacts with Mr. Morris in connection with developmental work in the distribution depart-

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ment, and find him very able. His first position was that of junior electrical engineer, since which he has had various positions as junior assistant distribution engineer, senior assistant distribution engineer, assistant distribution engineer, and his present position. He graduated from the Missouri University, with the degree of Bachelor of Science in Electrical Engineering.

I happened to be an assistant in physics there one year, and Mr. Morris was one of my students in physics laboratory
6983 work.

The chief draftsman in charge of the records division is Edward H. Geers. He has two groups of employees, one the permit group, that have all things to do with city permits for construction work, correspondence with other companies relative to exchange of pole space, pole records, right-of-way easements, agreements, and so forth; and a drafting group, which handles and maintains the plat record of the overhead and underground systems.

He is 46 years of age, and has been with the company
6984 for 25 years, 15 of which have been in his present position.

He is a native St. Louisan, first employed as filing clerk, and then as plant draftsman, record draftsman, chief record draftsman, and now in his present position in charge of the records division.

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The engineering subdivision of the distribution department is under the direction of Mr. Roland A. Lea. This group is responsible for the preparation of detailed plans and estimates of construction, reconstruction, extension and maintenance of distribution systems.

Mr. Lea is 51 years of age, a native of Kansas, and has been with the company for 28 years, fourteen of which have been in his present position.

He has held various positions as station meter tester, engineering clerk, assistant distribution engineer, and distribution engineer.

He graduated from the University of Arkansas with the degree of Bachelor of Science in Electrical Engineering.

The installation division is operated under the direction of Mr. John E. Weis. They have general charge of the meter 6986
installations, removals and miscellaneous installation work.

Mr. Weis is 61 years old, a native of St. Louis, has been with the company for 36 years, 21 in his present position.

His first job was meter man, and then as special estimator and installer.

In the operation of the distribution department, it is divided into two geographical divisions, with Mr. George C. McLaughlin in charge of the north district. He is 60

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years of age, a native St. Louisan, and has been with the company for 44 years, 8 of which have been in his present 6987
position. He was first employed as a ground man and worked through various positions up to his present position of superintendent in charge of the north district.

In similar work, Mr. Fred A. Silvers is superintendent of the south district. He is 53 years of age, a native Missourian, has been in the company's employ 25 years, of which 11 have been in his present position. He has also had a number of jobs, always in the same kind of work.

The underground conduit division is in charge of Mr. James L. Coughlin. He supervises three crews of 14 men

each, whose work includes excavation and installation of underground conduits, transformer vaults, manholes, and service laterals.

They also cooperate with the steam-heating department and install steam mains and steam service laterals.

He is 50 years of age, a native of St. Louis, has lived in St. Louis all his life. He has been with the company for 37 years, 5 of which are in his present position.

He had a number of other positions starting in as cable
6989 man, and working through foreman and other jobs until he got his present position as superintendent of the conduit division.

The superintendent of the cable division is Mr. William

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H. Burggraf. Similar to the underground conduit division, they install cables throughout the city, including the submarine cables to Cahokia and Venice plants in Illinois. They also install all the service laterals to customers' premises, and make cable repairs and handle cable failures.

He is 58 years of age, a native St. Louisan, and has been
6990 with the company 34 years, 4 years in his present position.

He was first employed as a cable man, and then became a splicer's helper, then crew foreman and assistant underground superintendent, before obtaining his present position.

The superintendent of electric power plants is Mr. Charles C. Robinson. He is 60 years of age and has been with the company for 29 years. His first employment was with the Mississippi River Power Distributing Company, a predecessor company, on construction work. As a matter of fact, it

had to do with the construction of the Page Avenue sub-station.

He has had various positions, as superintendent of sub-stations, superintendent of power and transmission department, superintendent and load dispatcher, assistant electrical engineer, superintendent of electric power plants,—which position he now holds.

He graduated from the University of Missouri and has a degree of bachelor of science in electrical engineering.

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He is responsible for the electrical operation in all the power plants, and the major transmission sub-stations, and the chief load dispatcher reports to him.

The testing and calibration of watt-hour meters in the St. Louis City Division is under the meter department, the head of which reports to Mr. Robinson. There are 334 employes in his division.

The superintendent of sub-stations, who is Mr. Robinson's direct assistant, is Mr. Oscar J. Rotty. Mr. Rotty is 42 years of age, a graduate of Missouri University, with the degree of Bachelor of Science in Electrical Engineering, 6993 and entered the service of the company 19 years ago. He has had quite a succession of positions, starting in with graduate engineer, and is now superintendent of sub-stations. "Graduate engineer" there means that he just graduated from college; it doesn't mean that that is the top job.

Mr. Rotty has charge of the operation and maintenance of all the distribution sub-stations within the city limits of the city of St. Louis, as well as the Page Avenue station, which is located just outside the city limits in St. Louis

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County. He acts as assistant superintendent in the absence of Mr. Robinson. He also does some construction work.

The supeerintendent of the major power plant at Cahokia, whose job is known as electrical superintendent, is Mr. Harry O. Duetscher. He is 42 years of age, employed for 23 years, and is a native of St. Charles, Missouri. He has had

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most all the jobs in the electrical installation work, starting with wireman's helper in 1917, thence wireman, foreman, sub-
6995 station division electrical superintendent—which he now holds.

He is responsible for the operation and maintenance of all electrical equipment at the Cahokia and Venice power plants, with 84 men under his supervision.

The meter department, which I just mentioned, is under the direction of William L. Hunker. They handle the meters for the City Division. He is 57 years of age, has been employed by the company 32 years, 25 of which have been in his present position. He was meter tester to begin with. He graduated from Missouri University. He has charge
6996 of testing and adjustment of all customers' meters, and a major portion of the meters used for recording and controlling system operations. He also has charge of the laboratory where standards and other instruments are calibrated.

He also does testing of various kinds, all the way from safety devices up to testing an electric range.

The chief load dispatcher is Mr. Oliver L. Luft. He was born in St. Louis 46 years ago, and has served the company 26 years, beginning as an oiler, and then an operator in sub stations, and then an operator at Cahokia, then a fore-

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man, general foreman, and since 1935, from 1935 to date, he has been chief load dispatcher. Mr. Luft, and the load dispatchers whom he supervises, collect the data used in fore-

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casting load conditions, coordinate electric generation of steam and hydro plants in the whole system, and are responsible for switching operations on the transmission lines delivering energy to the sub-stations.

The electrical superintendent in charge of the Ashley Street power plant is Edward S. Murdock. The old gentleman is 77 years of age, has been with the company for 47 years. Part of this time he was with the Missouri Edison Company, prior to its consolidation. Mr. Murdock is a very interesting man and you would never suspect that he was anything like that age, and he is such a thorough operator that the service which he is able to provide from the Ashley Street station is comparable with the service which is obtained from some of the newer plants, approximately. He is the most remarkable man. He won't be with us much longer because he is about to be retired on a pension basis, but the company will miss him.

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The Examiner: We will take a short recess.

(Whereupon, a short recess was taken.)

The Examiner: Let us resume.

A. (continued): The chief hydraulic engineer for the Union Electric Group is Mr. Albion Davis. He is responsible for the efficient use of hydro generation on the system which I have described at some length heretofore. He is 49 years of

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age and went to work first as an engineer at the Keokuk plant in 1914, when it was being constructed.

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He is a college graduate.

Three engineers report to Mr. Davis in the St. Louis office, and two engineers, one at each hydro plant, work in conjunction with him in handling the hydraulic operating schedules. His department also cooperates with the governmental agencies in the collection of current hydrologic data, main-
7001 tains rainfall and river gauging stations, prepares forecasts of river flow and power available, which are sent to the load dispatching office.

Daily, weekly and monthly the forecasts of hydro power are prepared in advance for the benefit of the steam plant operations and the scheduling of load.

The hydraulic department is pretty much of a self-contained division in our company, and where there is any special type of maintenance such as examination of turbine runner for pitting or any repair work of major proportions,
7002 Mr. Davis is always called in, in connection with that work.

The superintendent of the Osage plant is Mr. Turner White, Jr. Mr. White is 46 years of age, has been with the company for 10 years, 9 in his present position. He has 40 employes reporting to him in the operation of the Osage station.

The steam heating department is under the supervision of Mr. J. E. Hillemeyer. He also operates the little Cupples station of the light, heat and power company group, because

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it is essentially a steam operation. He has 38 employes reporting to him.

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He is 59 years of age, and has been 30 years with the company, 14 of which have been in his present position as manager of the steam heating department.

His first position was in the St Louis County division as engineer, in 1910.

The general storekeeper for the company is Mr. Robert S. King. He is in charge of the main storeroom, and all of 7004
the sub-storerooms, and that includes the delivery of material and operating a fleet of trucks, and he also is in charge of the utility shop.

The name "general storekeeper" is a little misleading for Mr. King, although that is exactly what he does. Still, the position is more responsible than the name would indicate, and he has one of the major jobs with the company.

He has 109 stores employees reporting to him, and 71 shop employees. He is 46 years old and has been with the company for 29 years, 21 in his present position. He started as a clerk in the sales department. 7005

He has 5 assistant general storekeepers, as well as a superintendent of the shop, under his supervision.

Mr. Tillman, Francis A. Tillman, has general charge the shop, and that includes under that the salvage operations where they recover the wire and material from the cable and salvage as much of the material as possible.

Mr. George W. Couch is superintendent of transmission.

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He has charge of the operation of the major transmission

lines in the St. Louis district, including the main Osage circuits and other high voltage lines.

He has 22 permanent employees. He also has charge of the operation of the Rivermines sub-station and the electrical operation of the Rivermines power plant.

In the summer months, of course, he increases his force materially and does extra work, and frequently runs his group up by 55 or 60 men during such period. His first job was that of a sub-station helper in 1913. He is 47 years of
7007 age and has been with the company 27 years.

Mr. Couch was reporting directly to me for a number of years as superintendent of the Franklin County division, in which he at that time had certain responsibilities, quite different from his present work. But he has been very successful in everything he has attempted.

The rate department is under the direction of Leslie V. Nelson. Their job is to study and analyze rates and correlate the rates with the cost of service, and analyze the various classes of rates.

Surveys are conducted with the purpose of standardizing
7008 all contracts for supplying electric energy in similar classes of service.

He has 6 employees in the rate division. Mr. Nelson is 45 years of age, has been in the employ of the company

for 15 years. His first position was as power supervision engineer in 1926, at which he reported to me.

The real estate and tax officer for the system is Mr. Harry C. Williamson. He represents the real estate and tax matters for Union Electric Company of Missouri and subsidiary companies, and St. Louis County Gas Company.

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He is 39 years of age, and began his service with the Union Electric Group as a tax clerk in the real estate and tax department in 1931. He became assistant real estate and tax officer in 1934, and his present position is that of real estate and tax officer for the group.

He has charge of the administration of all real estate and personal property, corporate, franchise and other forms of taxes, including the local improvement and license taxes. He files the tax returns and checks the payments on approxi-
mately 4,400 tax bills on property located in many separate 7010
political subdivisions.

He also has charge of the superintendents of the non-operating properties, such as the 12-story Insurance Exchange Building which is adjacent to our office building.

He has a personnel of 16 employees looking after that type of work.

He has 9 employees in his own department directly engaged on tax matters, and real estate matters.

One of his men obtains the right-of-way for the trans-
—2,982— 7011
mission lines, and that sort of work.

The research engineer for the company in the research department is Mr. R. Banks McDonald. He is 36 years of age and has been with the company 13 years, and has had his present position for 2 years.

He graduated from Washington University in St. Louis, attended the Harvard School of Business Administration for a year. His first position with the company was tabulator in 1928.

There are 11 employees in the research division under his direct supervision, and they make special studies on particular assignments, mostly of a business or economic nature, and conduct some general studies of a more or less routine nature.

In addition, Mr. McDonald acts as representative for the management, from time to time, in a discussion of labor matters with representatives of the Employees Mutual Benefit Association. He sits as one of the two representatives
7013 representing management on the Board of Adjustment, which is composed of these two representatives, and three representatives representing the employees, which is the Employees Mutual Benefit Association.

In other words, the Association has three representatives and the company has two, and they have a board of adjustment which hears matters with regard to wage changes and complaints.

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If an employee feels that he is not either properly treated with respect to his working hours, or conditions, he reports
7014 it to this group, and they have a conference and decide the question.

Mr. Charles E. Michel is the vice president in charge of sales, and is acting as the general sales manager, and has complete charge of all sales activity. There are 215 employees engaged in that work, including industrial power sales in St. Louis County, and the outlying Missouri territory.

Mr. Michel acts in a consulting capacity to coordinate the sales activities of the entire system, although the direct

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sales work in St. Louis County is not under his supervision, but he sends special engineers into the County for particular work on request.

He is 65 years old, and has been with the company for 34 years, 5 of which have been in his present position.

He has lived in St. Louis all his life. He entered the service of the company in 1907 as manager of the automobile department. At that time they were beginning to try to push the electric automobile, and it was kind of an uphill job, it didn't work out so very well. But he was very active 7016
in the work.

He then became the manager of the appliance department, which he carried on and gradually developed up through the various sales positions to his present position.

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He acted temporarily in a sales capacity for the Milwaukee Company for a while during the period from 1918 to 1923.

The sales manager reporting to Mr. Michel is Warren L. Berry. Mr. Berry is directly responsible for and supervises the following divisions of the sales department, each 7017
of which is an independent group and has a number of employees: Industrial Sales; Commercial Sales; Residential Sales; Merchandising; Outside Appliance Work; Rural Service; Industrial and Commercial Lighting; Industrial Heating; Commercial Cooking; Air-Conditioning; Isolated Plants —and by that I mean the division of the sales group who are assigned to try to sell electric service to any plants that are still in operation independently.

Continuing:—Rate and Statistical Work. That is a joint activity. The rate department makes the general rate

and inspectors; a number of draftsmen; 77 clerical employees; 165 foremen, along with all the other classes of linemen, splicers, trouble men, wire men, meter men, meter testers, and other skilled employees—the group totalling up to 894.

Q. Do you have equipment specially suited for work on the distribution system? A. We do. In the previous testimony I have described our general transportation system as to number of trucks and so on, and here I will briefly mention two or three pieces of equipment of particular interest.

In order to lower the network transformers into their vaults, we designed and constructed a 10-ton truck crane which can be swung around with a boom sufficiently long to extend out over the sidewalk and yet be able to handle a large network transformer unit.

The customary types of road-breaking equipment, air compressors, drills and so forth, are in continuous use and we have a number of the mobile type air compressors which not only are economical, but do the work with more rapidity and do a better job.

Tractors with power winches are used for pulling cable and similar items.

Trenching machines are available from one of our groups, which can be obtained on a moment's notice.

The other transportation equipment is passenger cars

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and ordinary trucks which I have mentioned heretofore.

During unusual emergencies we have been able, in one or two instances, particularly the tornado which has been described, to obtain additional equipment on very short notice. Several contracting firms worked very closely with the vari-

ous companies in our group, and they have a large amount of equipment which is readily available.

Q. Can you give us some statistics to show the extent of the distribution system as so operated? A. Yes, I have previously described the sub-transmission system and I did mention some miles of single wire. At this time, I should like to point out that there are over 10,000 circuit miles of overhead distribution circuits of all voltages in operation on 147,116 poles, plus joint service on over 100,000 poles of other pole using companies. By that I mean where we are joint 6614 with them, they likewise have other poles where they have circuits on ours. Primarily, of course, that is the telephone companies.

These data, or these circuit miles, are in addition to the underground cable and other facilities previously described, although in this 10,000 circuit miles would be included some of that wire which was mentioned only as a single item heretofore.

Over 24,000 transformers of all types, with a combined total capacity of 462,500 k. v. a., are in use.

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Many of our major industrial customers own their own transformers, and others occasionally buy power from us, metered on the high voltage side of the transformers at what is usually referred to as primary voltage.

Q. Do your maintenance and operating practices take weather conditions into account? A. They have to pay very close attention to weather conditions and be guided accordingly. The lightning and particularly sleet, wind, rain and temperature, are all factors which have to be considered in

the organization and in the equipment. None of these approach calamity proportions except on rare occasions, and those I believe have been sufficiently covered in other discussions.

Q. In times of calamity do you concentrate your forces as a group? A. We do. I mentioned previously that in the case of a large sleet storm that we had stopped a construction job and transferred over 150 men from one point alone, and I believe that although this distribution system is separate
6617 and distinct from the other one, the sleet storm has a similar effect, and I think we covered it rather extensively and I will simply say that the same situation which existed with respect to our sub-transmission overhead circuits, also applies to many of our distribution circuits, and in the sleet storm of 1924, we had a very serious situation to cope with. It occurred just about a week before Christmas due to a little

warm weather that stayed for several days right around the freezing point, and it begun to drizzle. This word "sleet" is not technically correct for what we are talking about.
6618 The correct term is glaze. The sleet never reaches any proportions to bother with, but when it rains a week with a steady drizzle, and the temperature is about 1 degree below freezing, and then the ice forms on the wires and we have icicles from 18 to 24 inches long hanging every 4 inches on a wire, when you weigh that up, the weight is a good deal per foot of wire.

In cases where the poles were so strongly guyed up that they couldn't break off at the base, some of them would break off 6 or 8 feet from the top.

But under those conditions it is surprising how quickly service is resumed, and the general information that we have received from our customers and their comments are nearly always commendatory with respect to the efforts that we make, and the ability to restore service as quickly as we did.

When we realize that those things only occur on the average once every 18 or 20 years, it is impossible to do better than attempt to repair them quickly.

Q. Do you have the problem of tree trimming? A. Tree trimming is in my opinion, when properly regarded, more 6620
of a social problem than a technical one.

One of the best ways to create good will in any district is to be sure that your tree trimming crews are highly pro-

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ficient foresters and if you haven't any men of your own like that, you had better hire the work done. We do both. In some of our divisions we hire the professional foresters on a contract basis, to do our tree trimming. In other divisions we have hired men who have—who are foresters, and have been engaged in that work and have developed our own forestry crews. In either event, we do regular tree trimming 6621
and in the residential and populated areas we use the greatest care in trimming the trees, as they should be trimmed, and not just to suit our wires.

While the men are on the job I don't mind mentioning that if a customer, whose trees are being trimmed in the rear or front of his house, has another tree or so that needs a little touching up, we reciprocate, we trim that tree for him. We have to go into his yard and trim his tree to clear our service wires, and if we can trim another one for him at the same time, we are glad to do it occasionally. It pays its way in

good will. That isn't the viewpoint that was always used in these companies. I have seen trees trimmed otherwise many years ago. But I believe it is essential to get premission from these people to trim their trees. You do, in many cases, have a perfect right to go in and trim them, but it isn't always diplomatic to exercise your rights in that way, and that is one point in which our company has gone to great length, and we have had meetings on it, and we have had comparisons with some of our sister companies and I believe it is

6623 —2,824—

the general viewpoint throughout the group now that you have got to recognize other people's rights and act accordingly, and if you are going to trim trees, do it like a gentleman.

Q. Have you any statistics to show the extent of the construction, maintenance and operating activities of the distribution and distribution sub-station department? A. I do, I have some figures to illustrate in general the magnitude of the work. I do not know just what other use can be made of them, but they illustrate about the size of the system.

6624 The 1939 distribution construction expenditures were as follows: St. Louis City—$1,907,000, (I am reading the nearest round figure); St. Louis County and outlying districts—$1,185,000; Illinois—$489,000; Iowa—$133,000.

I mentioned heretofore that we are in the early stages of some distribution and construction changes in the one city of Ft. Madison, which will cost us nearly $400,000, but that figure will show next year.

The operating and maintenance expense for the city division was $906,000; the St. Louis County and outlying districts—$490,000; Illinois—$294,000, and Iowa—$75,000.

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The total distribution investment as of January 1, 1940, which is intended to be given here only approximately, but which is actually taken from our books as the property and

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plant record, is $34,390,000 for the city; $14,895,000 for the St. Louis County and outlying plants; and $6,195,000 for Illinois; and $1,318,000 for Iowa. That is for the 12 months' period ending December 31, 1939. It includes the distribution sub-stations which, in the city and St. Louis County are under the jurisdiction of the electrical power plants depart- 6626
ment. That is, I have grouped in those figures the distribution poles, wire and distribution sub-stations.

Q. Do you have any regulations or installations on customers' premises to provide for service? A. Yes, we have provisions which are known as service entrance regulations, and which provide a guide to the customers and to the wiring contractors, so that the service entrance facilities are of uniformly high standard, simple in construction, and adequately protected.

By "service entrance" I mean the method and the location and the materials which are to be used in bringing the service 6627
into the customer's building, and the cost of which is to a large extent borne by the customer.

We bring our wires up to the building and down to the meter, if it is one of the new sequence installations which are usually out of doors or in the old type installation our wires go into the service switch, which is inside the building wall, and from there on the customer has charge and owns the equipment.

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The so-called new sequence metering is now standard throughout the system, and I don't mean to say by that that I believe that every meter on the system is connected that way. I do not think they are, and the facts are that as fast as our meter men get around, we are changing the older installations, but the majority of them have been already cut over.

This sequence metering is of no particular instance, it is simply a revision of the older method by which they used
6629 to put the entrance switch ahead of the meter and then a meter, and then a bunch of fuse wires. Today, in the modern installation, the meter is usually placed out of doors in a case, and by "case" I mean the weatherproof protection that goes over and surrounds the meter. That type of meter is designed to plug in with a bayonet type of fitting and it can be removed quickly. The whole equipment is made weatherproof, and it also has advantages because it is practically theftproof.

So that that is the present standard of meter installation. It has many advantages, it eliminates the annoyance
6630 from meter readers going into the residence and saves us the trouble of making re-reads when the customer is not at home.

If we have to locate the meters in indoors, we are paying particular attention to accessibility and the place where we locate them.

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Our larger light and power customers are served in whatever manner suits them, and their requirements. Some of them own their own installations, and in many of those cases they have made contracts with us to maintain and operate their sub-stations for them, that is treat the oil, see

that everything is in condition, and that it is kept in the best possible shape.

We make a charge for that service, although we make a certain type of inspection service for these customers without charge. Many of those installations for the smaller power customers have been designed and constructed without any charge to the customer. It is simply a matter of good business to aid the customer in using our service and in selecting it, and what is quite a major undertaking for him,—he gets some kind of an engineer to design and lay 6632
out these things—it is a very simple and inexpensive thing for us to do, and we have helped the customer out on many of those installations.

Primary metering, which is metering on the high voltage side of a customer's transformer, is used whenever the customer wants to have several classes of service. That is, he may want commercial lighting or some other kind of lighting, and power service, all off of one transformer bank. For simplification then, we simply put the meter on the high voltage side, and he does what he likes with the energy, and it permits us to have one contract for the one installa- 6633
tion.

In the City of St. Louis, customers are supplied from

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either the direct current system or the downtown A. C. network, in which the service facilities furnished include a junction box at a point where the underground service enters the building.

As previously stated,—and I believe made quite clear—the additional service in all the newer business is being taken on the low voltage A. C. network.

6634 *Stanley Stokes—By Respondents—Direct*

Q. What do the office divisions of the distribution department do? A. Well, I went into that a little bit in previous testimony here, in which I pointed out that one of the necessary features of successful operation is to constantly study your system load growth trends and other features.

The distribution engineers, estimators and inspectors have to constantly keep in touch with the growing load and be sure that their facilities are kept up, and in such capacity
6635 to suit the load. Furthermore, they have to plan extensions into new subdivisions, and see that the new customers and the additional load requirements of existing customers, are properly taken care of.

In addition to that, the system expansion to provide for the additional load, ranges sometimes from merely a reinforcement of minor sections of a line, to a major undertaking which requires the construction of a new sub-station. Without going into a lot of detail about the various sizes, a sub-station such as I have in mind will run from a minimum

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6636 of $150,000 up to about $300,000, and usually starts out with two—12,000 k. v. a. transformers.

I mentioned previously the cooperation between ourselves and the city with respect to civic improvements, and the clearing of streets, and that was mentioned with respect to our subtransmission system, but it applies equally to our distribution system. I pointed out how many miles of circuit we cleared in the street each year, and I won't repeat that.

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There is one feature that is of importance in the minimizing of total expense, and that is to see that the Bell Telephone requirements and ours are met with a minimum total cost, and we do that by constant cooperative planning with respect to the joint use of poles.

The records, in a system of this kind, are a matter of importance, and a voluminous matter. Records of all departments on plats, diagrams and so forth have to be kept up. We have got to have plats to show where all of our transformers are, we have got to have transformer record cards 6638
of each transformer, showing the date installed, every time it has been removed or repaired, and the whole history of it. We have got to have records of every pole and records of all of the permits that are granted for installations of all kinds. The record system is a matter of great importance. That is one thing that I have always been a little bit concerned

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about, the safe preservation of such records. They are so voluminous and they are in constant use all the time that there is no way to put them in a vault like you would a docu- 6639
ment, and if we were to have a severe fire it would be a great handicap. Of course, we would keep the service going, but we ourselves would lose a lot of valuable records.

An office division under a chief clerk carries out the various clerical functions, briefly payrolls, material manifests for handling material, records of customers' meters, and many other features.

I think that is sufficient to get an idea of the extent of the records and other office work.

Q. Now, will you describe for us your organization to take care of servicing of customers and breakdowns? A. The servicing of customers' premises at any hour of the day and night, as far as that is concerned, is a function of the operating division of the distribution department which we refer to as the trouble division. It also performs tests, inspections, and patrols of a certain type. It does not do the routine type of patrol that we have discussed previously, but does make special inspections.

6641 The trouble department, which is a rather extensive group, is assisted by the construction division whenever the magnitude of the specialized nature of the work requires it.

In St. Louis County, similar functions are performed, but with slight variations. There is no important difference

except that they combine their activities out there in a way to give the minimum total cost. The outlying communities in the suburban districts and surrounding counties have emergency trouble service located at the most strategic point, and where the roads are most accessible.

6642 The Illinois operations and the Iowa operations, and so on, are similar. The trouble service itself is arranged to provide for emergency service, 24 hours a day, and requires 28 first class trouble men and supervisors who are experienced and qualified to handle that class of work on either overhead or underground lines of any voltage, or to do work on a customer's premises.

Six third class trouble men respond to house service calls and are in training for higher grades of trouble work. That is, we start the younger men in on the simple work of calling on the house calls.

During 1939 there were 51,639 trouble calls involving service outages or an average of one call per customer every 4 years. Of these, 38,589 were due to trouble on the customers' premises, for which we were not responsible, but which we pointed out and which the customer himself usually took care of.

The average time of clearing trouble calls is 45 minutes, with 50 per cent. of all calls cleared in 30 minutes.

About twice a year a large number of families move, in any district, and the moving orders and change in location 6644
by customers calls for carefully scheduled meter readings to

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be sure that the billing and all records are kept up properly, and closed at the old address and opened at the new. This movement of the population is seasonal with peaks in the spring and fall, but with very little movement in the winter.

152,347 moving orders to close or open accounts were executed in 1939. That gives you an idea of what it amounts to in an electric company to have everybody move around.

In St. Louis County and outlying districts there were 28,640 such cases. 6645

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Customers' sub-stations, serving the individual requirements of industries, large buildings, hotels, hospitals, theaters, and so forth, receive special attention by periodic inspection and tests to insure good operable condition of all the equipment. Two men with a helper and a specially equipped truck look after 92 customer-owned and 121 Union Electric Group-owned installations. That is company installations.

In addition there are twenty-seven 13,000-volt customer installations inspected by the electrical power plant department. A charge of $25 per year is made to customers who own the installation on their premises, and who contract for this service voluntarily. The actual cost of service rendered has so far approximated double the charge that is made. This would not appear to be a profitable business, but there is more to it than just a few dollars. Every time one of these customer sub-stations gets into trouble it causes
6647 an outage or may cause an outage to our system, and certainly causes an outage to his system, and results in unnecessary difficulties, and if we make a brief analysis of the value or nuisance value, if you want to put it that way, of these cases we think so far that this service is justified. We have found out by experience that the customer himself does not do it, and we have no law that will permit us to compel him to do it, and the best we can do is to try to do it for him, but if we charge in all cases what it costs us, it

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would not be practical and he just would not contract for it.
6648 This service is, in our opinion, still on a tentative basis. I think we have hopes of reducing the cost, and I think we have hopes that the customer might be willing to accept a slightly larger charge. If we can get it on a self-supporting basis that is all we hope.

Q. Do you make voltage surveys to insure the proper service voltage at a customer's premise? A. We do. Voltage survey work has not always been done. I should say this, that over ten years ago it was universal for all power companies to regulate their general voltage standard as the

result of calls from customers who thought their voltage was incorrect.

Today, a considerable percentage of the power companies do some of this work. We have taken active interest in it now for about six or seven years, and are extensively surveying the voltage. One has to be careful when he asks another power company, "Do you make voltage surveys?". I have had an experience. Some times the answer is yes, and when you get right down to analyze the facts, all they are doing is making the usual routine checks that have always been 6650 made. When I refer to a voltage survey, I mean covering all of the major feeders on the system, with a systematic routine survey, using a great many instruments and setting a number on each feeder for a definite period, and then moving them to the next feeder. So that, by taking certain

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sections of the system continuously, we are able to get over our system about once every four or five years on a continuous basis.

The results of those voltage surveys are turned over to 6651 the engineering departments to use as a guide for distribution changes, additions and corrections. That is, these load growths throughout the area are not uniform. Certain districts will start growing at a rapid rate, and also unless you make both voltage surveys and load surveys, you will frequently be surprised. Load surveys are similar to voltage surveys except they measure the loading of the equipment, and try to be sure that they don't overload them. In those surveys we will find some equipment which is underloaded and we can take advantage of that, and move it to some other

location. I don't mean by that, that you can go out and measure the load at every transformer on a system very frequently; you can't do it, there are too many of them.

Q. Do you check customers' range installations? A. Well, yes, we check them very quickly after they are installed. It is essential that an electric range be installed with the correct voltage, and if we give an electric range good voltage, you don't need to worry about the reception that it will get in the home. Inasmuch as we are particularly interested in promoting the sale of the electric ranges, that feature is given special attention.

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Our transformer load survey tries to get around the system about every three years at peak times. Some of the transformers have load indicators installed. It is a peculiar thing that it is not so far different from the standpoint of the loss of equipment whether you have left your surveys alone and just lose the transformers from overload—— We made some calculations at one time to show the actual loss of property if you didn't measure them at all, and found out that that would be less than the cost of making these surveys. But that isn't quite the whole story, and after we analyzed the problem broadly we think the surveys are preferable.

In the first place, you save the outage that occurs when the transformer burns out. In the second place, you learn a lot of other things about your system that are essential to planning.

Among the surveys is an electrolysis survey. I won't go into that in detail because it has been covered twice, but I will say that there are 886 miles of these underground cables which are subject to all of these problems and have to be

watched. It takes an engineer and one field crew of two men continuously.

Also radio interference has become a factor regarding surveys, and we have an expert and a helper whose services are available to customers who complain and think they have radio interference.

About ten per cent. of the calls reported by customers, radio dealers and others, are found to involve some kind of a

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condition with which the electric company is connected. 6656
Maybe it is some kind of line trouble or something. About 90 per cent. of them have something to do with the radio sets or some other trouble with which we have no remote connection.

One per cent. of the cases have been tabulated as incipient insulation failures. In other words, a radio will detect any kind of an arc, no matter how small, the least spitting, and whereas ten per cent. of these cases were associated with our lines or equipment, one per cent. of them represented something that may be on the verge of failing. So that if we catch one per cent. of the incipient difficulties, 6657
we probably save many failures. This is not only a service to the customer, but is probably an economy to ourselves.

Then there is a type of radio interference that we didn't used to know much about. If a 33,000-volt circuit happens to be within 30 or 40 feet of a highly sensitive radio, even a well designed circuit may be picked up a little bit. It is due to the slight amount of corona or incipient spitting—you can't see it and you can't hear it, but it has to do with the tie wire and the insulator. The solution to that is where those troubles are observed, to use some special form of insulator

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which has a slight conductive coating at the point where the tie is attached.

They have a lead glaze they put on the insulator and spread it out, and that makes the contact with the porcelain

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a larger area, whereas the tie wire is a concentrated contact at one point. The result is that we have been able to eliminate those things and there aren't very many of them anyhow.

6659 Telephone operations have been discussed to a large extent.

There is a special telephone board in the distribution department headquarters that fills a room about this size, and it is operated in connection with the trouble dispatcher's office and also has connections to the load dispatcher and his men.

That is a rather brief summary of those operations.

I attempted to avoid covering extensively the same subject that we had treated on the higher voltage lines.

Q. Does the Union Electric Group derive benefits from
6660 the interchange and pooling of technical information with other companies in the North American System? A. Yes, it does. The Union Electric Group has derived very substantial benefits and economies over the years from pooling of technical information with other companies in the North American System. Such benefits are derived not only from the normal contact through system committees on which various companies are represented, but also through less formal and direct contacts between particular companies.

Q. Does the Union Group interchange statistical data with the other companies of the North American System?

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A. Yes. The Union Group receives monthly reports giving detailed operating data and itemized production expenses for each of the large steam generating plants in the North American System. Thus it always has before it the record of performance of the other companies' plants.

Q. Are coal samples interchanged among the companies? A. Coal samples are interchanged each month in rotative order, each company sending out a representative plant coal sample for analysis by the other company laboratories. At periodic intervals a check test is also made by the Bureau 6662 of Mines.

The results of these analyses are tabulated and a comparative statement sent to the various companies. This procedure serves the two-fold purpose of providing a check on the technique of individual company laboratories, and also gives accurately the heat content and analysis of the fuel used by the respective companies, this latter being an important factor in calculating plant thermal economy.

Needless to say, it also makes available to each company complete data on the fuel used by the others, and fuel is the most important single element of operating or production 6663 costs.

Q. Through this interchange of information with the other companies, does the Union Group receive consulting services on design for plant expansion? A. Yes, we do. Whenever one company is considering a new plant or an ex-

tension to an existing plant, the entire proposed layout, including all of the design features and selection of equipment, is submitted to the engineers of all the other companies for their comments and views.

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This furnishes a unique consulting engineering service which could not be duplicated anywhere else in the country, due to the fact that there is no other associated group of utilities serving major cities of about the same size, and with comparable steam generating plants and comparable problems.

Q. Is the result of this interchange of information the avoidance of duplication of research? A. Well, naturally it does avoid duplication of research because, since the
6665 engineers of all of these companies are available for advice to each company and since the developments in each company are communicated to all companies, in effect, each company has the benefit of all improvements in engineering technique developed by all companies.

Again, there is a unique service because of the fact that the companies are of comparable size, so that their problems bear more relationship to each other than any other associated group could have.

Q. Are the consulting services of the other companies' engineers which are so made available to you made more
6666 valuable by reason of the familiarity of those engineers with your system? A. Yes, it is obxious that the engineers of

each company are familiar with the plant and equipment of each of the other companies since meetings are rotated at various companies, and at these meetings inspection trips of the equipment are made.

This information is in addition to the statistical information which they have received otherwise. Obviously again, the value of the intercompany consultations is tremendously

increased by this background of knowledge, which is thus afforded.

Q. Will you please give us some examples of benefits which have accrued to the Union Group through these intercompany contacts? A. Well, there are typical examples which I might cite of the benefits which have accrued to the company from these companies, one of which has to do with pulverized fuel.

It is typical and outstanding in the design of all of the plants of the Union Electric Company of Missouri that we 6668
do use pulverized fuel, pulverized coal for fuel. The first station in the country to demonstrate the numerous advantages of this method of firing was the Lakeside plant in Milwaukee in 1920 to 1922, following earlier experiments in that city of the Oneida Street station. This development at the Oneida Street station is an outstanding achievement because it marked the beginning of the use of pulverized fuel in this country.

At this time the Union Electric Company's Cahokia station was being designed for chain grate stokers, the only
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reasonably effective method for burning Illinois coal then known.

By close contact with the Lakeside experiments and tests and by testing several cars of Illinois coal in their furnaces, which had been shipped to them for this purpose, we early realized that this method would be ideal both for the type of coal and for the operating conditions imposed at the new proposed Cahokia plant. It was decided to use pulverized fuel at this plant, and it became the second station in the country so designed.

6670 Pulverized fuel firing has been a great boon to the Union Company system. Illinois coal has been burned on every type of advanced stoker design at the Ashley Street plant, but the characteristics of this coal had limited the performance and the result in every direction. Its high ash content, low ash fusing temperature, and clinker forming properties had limited the boiler ratings to 225 per cent.

That perhaps might sound like a high rating, but it is not.

6671 The large amount of clinker and ash refuse carried off by the unburned coal reached a point where 20 per cent. of unburned carbon in the refuse was common. The size of the steam boiler units was limited by the physical dimensions in which it was possible to build stokers, with the result that Ashley Street station had 56 boilers for a plant capacity of only 122,000 kilowatts.

The extremely slow response of a stoker fire to changes in

boiler load imposes a severe strain on equipment and personnel in an effort to maintain constant steam pressure under rapidly fluctuating loads of a utility system which serves an industry, a street railway system, whose peaks are rather sudden, and which is operating in conjunction with a hydro station.

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Finally, the high volatile content of Illinois coal resulted in serious smoke production, which adversely affected economy, and became a problem in the community where smoke was already a recognized difficulty.

Pulverized fuel has been an important contributor in the steady progress toward lower production cost, and the con-

sequent cheaper rates are offered by this company. Instead of the 20 to 35 per cent. unburned carbon in the refuse, this figure is usually from 2 to 6 per cent. today.

Boiler size now appears to be limited only by the quantity of steam desired in a single unit.

In 1922 Ashley Street had a boiler for each two point two thousand kilowatts. Cahokia, placed in operation in 1923, was able to supply twelve point five thousand kilowatts per boiler. The new Venice No. 2 plant now being erected has 40,000 kilowatts per boiler. Further, pulverized coal firing 6674
so adequately meets the steam requirements for rapidly swinging loads that combustion control is handled with automatic equipment, with operators giving technical supervision.

Finally, even with 37 per cent. volatile coal this is done

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with a minimum of smoke.

Through the experience gained by our sister companies with extremely high pressure and temperature steam, our company was able to choose steam pressures and temperatures consistent with our operating conditions. The value 6675
of the studies consisted of the determination of the upper limit of steam temperature from which designers were able to devise the heat cycle leading to the highest steam pressure consistent with the greatest fuel economy.

Knowledge of creep stress of alloy steel piping, turbine blades, and valve parts was not well understood. There was very little knowledge on that subject. Perhaps I should explain there that if steel or alloys are subjected to very high temperatures over a period of years, they seem to expand

and occupy more volume permanently. In other words, whenever they are heated up and expanded they do not seem to contract to the exact same volume that they origially occupied, and the extent to which this creepage will take place at high temperatures was very much in doubt. As the result of this high temperature work actually carried out in power plants, an upper limit of 925 to 950 degrees of steam temperature was established as an upper limit for currently available materials. It is a general practice,
6677 I believe, to stay a few degrees below these limits. For example, a 925-degree design would correspond to this 950-degree limit. By staying at 900 degrees there is a fairly good factor of safety today, taking into account the present-

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day knowledge. But without some of this research that knowledge would not have been available.

Thus with the work by our sister companies on high steam pressures and on high temperatures, the very likely error of going over 850 pounds pressure and 950 degrees temperature for our new Venice No. 2 plant, with the St.
6678 Louis type of fuel and the load strains due to parallel operation with distant hydro plants, was avoided.

I would like to make an explanatory note there, that it would have been a simple error to fall into because that type of plant could have been successfully operated elsewhere and might readily have been assumed to be equally successful with our coal. Improved knowledge on that subject shows that that would not have been the case, that our conditions were different.

Thus, through this work by our sister companies on high steam pressures and high temperatures, this error was

avoided. Furnace designs at Cahokia, Ashley Street and the new Venice plant all reflect the guidance of the other companies.

For example, early furnaces at Cahokia resulted in furnace maintenance work costing an average of 11 cents per ton of coal fired. Through the experience of the other companies, all of whom were thoroughly informed of our operating conditions at Cahokia, a water wall construction was developed that reduced this cost to three cents per ton. A development of great economic value to the St. Louis 6680

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plant has been that of improved furnace and pulverized fuel burner designs, suited to the low grade coals available in this section of the country, at the same time permitting a high rate of furnace heat relief. By that I mean a large number of B. t. u. per cubic foot of furnace volume. Although the ash of the coal burned becomes molten at the comparatively low temperature of 1,950 to 2,100 degrees. In the period from 1926 to 1928 it was found possible to double the output of furnaces from 12,000 to 24,000 B. t. u. per 6681 cubic foot per hour. This development permitted doubling the output of several of the Cahokia boilers, and this in turn permitted the installation of a 75,000-kw. turbo-generator in the same space supplied for the boilers originally provided for a 35,000-kilowatt turbo-generator.

That, by the way, is the No. 1 machine today, and refers to the 35,000-kilowatt machine which was removed and installed in the Venice plant. That has been mentioned heretofore.

In this development, the combined knowledge of all companies sitting in on bi-monthly meetings permitted verifying and modifying this development at every stage. The final result was the successful installation that required not a single substantial change after designs were drawn up and the units placed in operation.

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Fly ash collectors have previously been discussed at considerable length. They are just ready to be tested at our
6683 Ashley Street station, and are being installed for one section in the Cahokia plant. This application has been tremendously aided by the coordinated work of all companies keeping each other advised on such related problems as the design and performance of collectors and the handling and utilization of the fly ash material which is collected.

Q. Could you give us some typical examples of benefits which have accrued to other companies using the North American system by virtue of the development by the Union Electric Company? A. Yes, I can cite such examples.

The first major development in pulverized coal firing,
6684 after its adoption at Lakeside and Cahokia, has been of greater simplification by the use of pulverizing mills, firing directly into the furnaces. This method is known as the unit mill type of firing, as distinguished from the original central system in which the pulverized coal is first delivered to the bins from which it is taken as needed.

This method of firing was developed for the central station as Union Electric's Ashley Street power plant in the period from 1924 to 1926. Its advantages are simplicity, economy and safety. It eliminates the storage of pulverized

coal and reduces the quantity of pulverized coal in the plant at any one time from several hundred tons to a relatively few pounds.

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This leads to a far safer condition since practically all the hazards with pulverized fuel occur where there are accumulations of coal.

Further, costs are reduced both in initial investment and in operation because of the elimination of fires, the separation of coal, pulverized coal and air, as discharged from the 6686
mill preparatory to transport, and the transport of coal with compressed air to the bins, and then the second separation of air and coal at the bins. Also, the screw feeders and the mixing of coal and air for the purpose of introducing fuel into the furnace. Those are all eliminated.

Throughout the period of the development of the unit mill system, all companies kept in close touch with the project. These companies sent representatives to Ashley Street to study the changes being made, and to witness the extensive performance tests.

On the basis of this knowledge, Cleveland and Washing- 6687
ton were enabled to develop a unit mill application for their own plants which have contributed to the extremely economical operation which has been developed in those cities.

Another item which must be mentioned is the fact that after turbines have been operated over a period of a year or two, the blading becomes covered with a hard layer of scale which arises from the impurities not eliminated from the water. This scale changes the shape of the blading and generally impairs efficient operation. It also covers up defects

—2,849—

in the blading and prevents their detection. Hence, when turbines are shut down for periodic overhaul, this scale must be removed. The use of the sand blast method, employing fly ash, introduced by the Union Electric Company, Missouri, and their group, has proved to be efficient, non-injurious to the blading, and very economical, and has been adopted by other companies with like results.

Q. Are inspection trips frequently made by the engineers of the Union group to observe new installation in the other
6689 companies in the North American system? A. Yes, inspection trips are carried out with regularity. Trips are made to one company by the engineers of the other companies, whenever there is a new system installation, so as to obtain first-hand information on design features and to observe the physical and operating characteristics of the equipment.

Q. Is information relating to current problems freely interchanged by the companies? A. Yes, there is a very free interchange of such information. Interchanges of information are carried on by correspondence. The engineer of one company will address those others concerning a certain
6690 subject, outline his company's practices, and request similar information from the others. Their replies in turn are sent to the originator, and the engineers of all other companies, so that the complete story is available to all. At the next meeting such matters are usually further discussed to clarify

any doubtful points.

Q. Are growth statistics interchanged at regular intervals by the several companies? A. Yes, at regular intervals analyses are made of the growth trends in the system output, maximum system demand, and number of electric customers

for each of the companies. This gives an index of general business conditions in the various localities, and comparative study is helpful in forecasting the long term capacity needs.

Q. Are electrical system performance data interchanged by the several companies? A. Yes, the electrical system performance data is interchanged. Annual data on system electrical losses and efficiencies are submitted for study. By "annual data", I mean 12 months ending with the current month. That data is interchanged usually more often than 6692 once a year.

Q. What do these data show? A. These data show comparative efficiencies in each of generation, transmission, conversion or transformation and distribution components, and overall operating efficiency of the system as a whole. The resultant discussion of specific features of system design accrue to the benefit of all companies.

Q. Do the several companies interchange information on circuit interruptions, and equipment failures? A. Yes, company data is exchanged on circuit interruptions and equip-

—2,851— 6693

ment failures. This data is compiled in comparative curves to show the continuous 12 months' running performance record. This study is giving each company the benefit of the experience of the other companies, and has in many cases prevented serious trouble by giving advance information of defects in equipment, switching arrangements, or operating procedure, so that the other companies could anticipate similar experiences and make corrections to avoid such failures.

I could indicate the variety of subjects on which such service records are interchanged, and among them I could mention the circuit trip-outs. By "circuit trip-outs" I mean the tripping of an oil circuit breaker supplying a feeder.

Then, cable failures. That is a comparison of cable failure records at different voltages, and per hundred miles per year, or on some such similar basis.

Transformer failures; circuit interruptions; fuse failures; fuse box failures; wood pole failures; distribution wires down. That is a sample of the type of information that is interchanged.

Any tendency on the part of one system to develop more failures than the average, at once becomes apparent, and the group of engineers of all the companies, acting as consultants, is in a unique position to determine the cause.

Conversely, any exceptionally good performance is available for analysis and example. Through such closely related inter-company activity, the service dependability of all companies has developed to a high level.

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Q. Is information interchanged on operating problems? A. Yes, information on company operating and even on maintenance problems and on standards of maintenance practice, is interchanged and new developments in system design are frequently interchanged between the various companies. This is done not only at the regular meetings, but also by correspondence between meetings. There has been a particular benefit in the interchange of construction and equipment standards and specifications. These are based on a combination of test data and on a long accumulation of experience.

Close cooperation among the companies, with ready and frank criticism exchange in the security of their family relationship, results in the development of a class of standards and specifications which would not otherwise be possible.

Q. Have there been any cooperative investigations on various subjects? A. Yes, there have been various cooperative investigations.

To aid the companies in reaching accord on various matters, studies, designated as objectives, have been assigned to the different companies, and an analysis which took into 6698
account all of the factual and theoretical data available has been made and presented. At least 20 such objectives have been investigated.

Q. Could you give us some examples? A. Examples of such objectives might be, or are, rather, proper voltage to

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use for A. C. distribution; size of load to be taken on the system at transmission voltages; methods of fighting generator fires; what is the best method of locating high tension cable breakdown; when are automatic A. C. sub-stations justified; what are the factors and relative weights, affecting the most 6699
economical size of A. C. and D. C. distribution sub-stations for suburban service; a determination of the electrical instrument necessary and desirable on equipment of all kinds in power plants, sub-stations, lines, and feeders; economies in repair of distribution transformers; protection of high voltage transmission systems by overhead ground wires, flux control and grading shields; study of the most economical size and type of direct current feeder cable for Edison system; minimizing cable reel losses; economies of cable sal-

6700 *Stanley Stokes—By Respondents—Direct*

vaging; investigation as to the advisability of the use of factory-made bus structures. Those are representative examples of the type of assignments that have been made.

Q. Can you give us examples of developments in the field of transmission and distribution which Union Electric has participated with the other companies? A. Yes, the swinging cross-arm transmission structure, and the design of an improved type of "H" frame wood pole construction, which has been previously presented here, are examples of that type of
6701 cooperative design.

Several of the cities of the North American group are in geographical sections subject to frequent lightning storms. The St. Louis group made these studies to which I have re-

ferred, and which have been discussed at length heretofore, and they conferred with the other companies as the plans were developed.

The basic design of these two lines was checked by all companies, and we had the benefit of their views. This pool-
6702 ing of experience is in no small degree responsible for the most exceptional success of these two lines in resisting interruptions due to lightning.

One item of development recently by the St. Louis group is an inexpensive meter for measuring maximum, minimum and average voltage at any point on the system, and in particular on service connections. Through closely regulated voltage and particularly in control of maximum and minimum voltage, marked improvements are possible in the efficiency of the utilization especially in lighting service.

Judging by the interest shown in the new instrument, it will be used extensively in making the voltage surveys previously referred to.

The use of carrier current communication methods has been an important advance in load dispatching, and the application of these methods in the Union Electric group has been aided materially by the cooperative opinions and advice of the various companies.

This installation was the logical outgrowth of pioneering work by the company engineers, together with later advice 6704
and assistance from an engineer of the North American Com-
—2,855—
pany. The equipment is in regular use in load dispatching over the entire system. Automatic sub-stations have been a particular field in which the St. Louis group of companies has pioneered, particularly in the use of controlled circuits.

An example of a load-shifting device which automatically divides the load between two machines on a predetermined basis, was referred to in our previous description.

That device also will automatically shunt the load to other machines when one is shut down. 6705

The ground relays on induction voltage regulators have also been mentioned. These relays prevent the circuit from becoming reclosed in the case of regulator trouble. The other companies in this case were enabled to learn of the merits of the arrangement almost as soon as it was installed and tested, an advantage which would not have been available were it not for this intercompany cooperation.

Another subject on which attention has been recently focused is that of immediate versus delayed reclosing of cir-

cuit breakers, at the time of a system short circuit fault. It was found that relatively few circuits stay closed, that is in operation—with instantaneous recloses. Nevertheless, it offers superior overall performance to the customer, since with instantaneous reclosing the service is not interrupted, whereas with the service off for five seconds or more some of the customer's equipment would be shut down.

—2,856—

6707 The Union Electric group made a special study of this development and in conjunction with Mr. Wallau, a Cleveland Electric Illuminating Company engineer, reported the benefits and limitations to all companies. We mentioned the thermostat among our description of automatic sub-station pioneering. That was one of the items which the St. Louis group made available to the other groups. The thermostat applications have also been used for automatic control of the cooling water on transformers as well as for the other applications which I have previously mentioned. That type of development is passed around to the other companies at the first opportunity, which is usually shortly after it is

6708 developed.

The Union Electric Company also was one of the first of the companies to adopt measurements of dielectric loss and insulation power factor as the index of the condition of the dielectric.

The company's present policy is to periodically test by this method all bushings, transformers, potential devices and oil circuit breakers above the 10 kv. classification. Tests are also made on certain cables, potheads, and lightning arresters.

Without the intercompany cooperation, such rapid and beneficial response to outstanding improvements such as this, could not have been effected.

All companies have interchange of experience data and

—2,857—

testing procedure for lightning arresters, and this work has been the basis for the establishment of a definite policy for the design and application of such arresters. In this case the Union Electric group were the beneficiaries. We had some difficulty with some lightning arresters in the last two 6710
years, and got some very valuable information from the other companies.

Another distribution development which is currently being studied and developed is the general subject of service connections to domestic users. A rapid increase in the use of electric cooking ranges has brought this subject to the fore because of the improvement which can be effected, particularly by the use of the outdoor meter and enclosures, and simplified wiring connections. Savings are possible by development of new wiring systems, materials and methods, all of which pass through some experimental stages. By 6711
pooling their experiences, the associated companies have available data from which their procedure can best be directed and also assure minimum wiring costs to the customer.

Union Electric group has been studying the method used for service connections by their related companies, and have greatly benefited by a knowledge of those changes which have proven to be desirable.

The trouble department of Union Electric group, particularly the St. Louis division, is being remodeled on the basis

6712

of experience gathered from the other companies. This change

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also includes the subject of radio communication for emergency dispatching in case of transmission or distribution trouble.

Another item of considerable moment, because it has been the source of some rather extensive lawsuits, is the noise from transformers. This transformer noise causes complaint at certain locations from the public. These complaints
6713 originate in residential neighborhoods, which are in the vicinity of large power transformer installations. I should say that the lawsuits to which I refer did not occur in our system, but we had such complaints of difficulties and recognized the responsibility might turn out to be with us.

The noise may be described as a low-pitched, steady humming which becomes objectionable during the night period when the general noise level has subsided. Mutual investigations among the companies have been helpful upon this subject. These included, for example, procedure for making noise measurements and writing the specifications
6714 covering noise for the purchase of equipment, particularly transformers. As a result, three transformers now on order have been designed for an appreciably lower noise level.

Q. Can you give us an instance in which the Union group have loaned personnel to a sister company? A. Yes. Our group loaned to the Milwaukee company the services of the sales manager, Mr. C. D. Michel. He was the sales manager or is the sales manager still, for the Union Electric group.

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He was loaned to the Milwaukee company and completely

6715

reorganized their sales effort. Mr. Michel was at that time, and still is, a leader in the field of sales promotional work.

Q. Can you give us an instance where the Union group has borrowed personnel from a sister company? A. Yes, the Union Company has just recently obtained the services of a member of the staff of the Potomac Electric Light & Power Company of Washington, Mr. William Jones, who is an expert on customers' record filed.

We also borrowed Mr. Campion, a consulting engineer of the Potomac Electric Light & Power Company, to give us consulting advice and assistance on the foundation work for Venice plant No. 2.

6716

Mr. Campion is a recognized foundation expert, and we called him in, in connection with our piling and foundation work for the new turbine.

Q. Can you give us an instance in which the Union Company has sent its personnel to a sister company to investigate their practices? A. Yes. Only recently the Union Company sent members of its organization to Milwaukee to study the reasons for the remarkable reduction in building costs which had been achieved by the Milwaukee company.

6717

Q. Does the Union group feel free to call on other com-

panies in the North American group for help? A. Yes, we are very free to do so. Whenever any problem arises as to which we wish the combined experience of the other companies, or the experience of any other single company, we feel entirely free to write, requesting such information, even though we know it may require cosiderable work to answer our inquiry. We feel free to do so, because the other com-

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panies are in the family and they are equally free to write to us. We feel equally free to give information within the family. There is much of this informal exchange of information. This relationship simply does not exist outside of the family group.

Q. Now in the meetings of the engineers of the companies in the group, has the size of the group any bearing on the extent and nature of the information interchanged? A. Yes. I consider that it does. The smallness of the group
6719 makes it possible to arrive at results which would be impracticable in a large industry meeting, and the smallness of the group is one of the essential factors in deriving the most benefit and it distinguishes this intercompany work from other professional aid which we receive from other contacts. This little group, you see, is not only small, but well acquainted.

Q. Does the gross relationship within the group contribute to the freedom and frankness of the interchange of information? A. Unquestionably. We know that we can ask any question of another company within the family, and get
6720 a completely frank answer, just as we give any information

requested without reserve to any other member in the family group.

This element of frankness is unique and entirely restricted to these family relationships. In other words, we would not and could not give information with anything like the same degree of frankness to any outside company, nor would any outside company expect it, nor would we expect such frankness of them.

Q. Do savings and economies result from these inter-family contacts? A. There is no doubt that the Union group, and each of the other companies, derive important savings and economies in the aggregate from these inter-family contacts. Naturally it would be difficult to put an overall dollar valuation, but certainly the savings are most important and make a large contribution to our efficiency.

Mr. Odell: Just as a matter of information—and this may have been previously answered—do you attend these meetings that you spoke of a while ago? 6722

The Witness: Yes, I have been a member of the intercompany electrical committee for many years.

By Mr. Browning:

Q. Is your meter reading group an important customer contact group? A. Yes, it is, and in analyzing some meter reading costs which I had occasion to go over, it was very evi-

dent that we were hiring more intelligent and attractive men because of the value that we know that they have to the company in its contacts with the customers. In fact, they are about the only contact that the average customer has with the company, and the attitude of the meter reader frequently, in the customer's mind, sets out the kind of a company you have, and it is desirable to have high-grade men. Of course it goes without saying that they have to be honest. 6723

Many customers send payment of their bills through the mail, and seldom contact any representative of the Union Electric Group except the meter readers. Others pay their bills at the multiplicity of pay stations to which previous

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reference has been made. The meter readers are therefore selected on a basis of their judgment, tact and ability to meet customers. They must conduct themselves on a customer's premises in a manner reflecting the company's desire for good customer relations.

Q. Can you tell us something about the functions of the meter reader? A. A meter reader has to first read meters once a month, he has got to record the readings on the individual customer meter route sheet. He has got to sub-
6725 tract the current readings from the previous month's reading, and compute the current month's consumption; we check the reading if the consumption appears too high or too low; attempt to account for fluctuations if recheck shows that the reading is correct, by inquiring of the customer and deter-

—2,863—

mining that the meter is registering mechanically; report service complaints or comments by the customer; also notices of moving and other matters which require further handling; execute re-read orders and special read orders received from the billing division, credit, adjustment, and collection divi-
6726 sions, sales department and other departments contacting customers. That is, they may call for a re-reading for any one of a large number of reasons.

Q. Will you describe the work of meter reading? A. Yes, the meter reading in the early days of both the telephone and the electric companies was always carried out on a certain day of the month. Of course that became impossible after the company grew so large, and the billing districts and meter reading districts are made up now so that the reading is continuous every day of the month. That not only

equalizes the work on the meter reader but on the accounting department and other departments. I have forgotten how many sections we have, but I think there are some 23 or 25 billing districts, something on that order.

Q. Are the territories served divided into districts for this purpose? A. Yes, in other words they divide the territory up into these various meter reading districts, which we usually refer to as billing districts, and the bills are sent out at regular intervals so that the customer in a given district always gets his bill about the same day of the month, each 6728

month, but he won't get it the same day that some other customer does. In other words, we will bill district No. 1, for example, on the first of the month. District No. 5 may be billed on the 5th of the month, and so on. It is a continuous performance because it is impossible to either read the meters or bill 350,000 customers on any one day. All big systems do that today.

I believe that we—I know that we did for several years—read the meters to the nearest even kilowatt hour, except on final bills, which are then read exactly. That is a means of 6729 eliminating half of the numbers that had to be dealt with. I think that advantage has disappeared though, with the use of the machine billing, and I think they are now read as they read. There would be no loss if you just read to the nearest kilowatt hour, and if your final bill is rendered accurately nobody has either gained or lost. It simply happens that we used to use a rubber stamp system, and that cut the total amount of work about in two. But with machine billing that probably has no further advantage.

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Q. How many electric and gas meters are read monthly? A. Well, they read them all, but at this particular time—I had that figure looked up, and it was 356,492. That is probably a little different today, but that was at the end of December.

Q. In addition, are inactive meters checked? A. Yes, —2,865— there is always a lot of re-checks, and they ran 28,000 on the inactive meters. You see, we leave those meters in the
6731 premises when people move so that they can obtain service as soon as they get into the house, but we have got to check on those to see whether anybody has moved in, and also to see that the meter has been used. Meter readers compute the consumption of the accounts other than commercial, which are machine billed, by subtracting the previous month's reading from the current reading. This eliminates an operation in the office and calls to the meter reader's attention the unusual fluctuation of any customer's bill while he is still on the job. In other words, he makes the computation and he will check anything in error, either he may have read
6732 it wrong or it may be an unusual use. If he catches that before he leaves it will save a re-check and return trip.

These meter readers also execute a large number of requests for re-reads, as mentioned above, and special re-read orders where some group in the company needs the information, either suspecting that the reading isn't correct, or for any other reason wants it re-read.

One of our major difficulties in reading meters has always been that the customers are away from home, and you can't get in, and if you do make a meter reading through a basement window, the customer always complains and perhaps

says that you didn't read the meter at all because you couldn't have gotten into the house, and we have had to send a meter

—2,866—

reader back out to show him that he could read the meter through the basement window.

But the real difficulty, when meters are located inside a house, is that so many trips have to be made back to a house on account of a customer being away. That is the advantage, or one of them, of the outdoor meter. If he can't get at the meter to read it on his scheduled call he leaves a card which 6734 requests that the customer mail it in, and if he doesn't get that he will make another attempt to read it.

About 25,000 of these "Read Your Meter" cards are left at customers' premises every month of which roughly 70 per cent. are returned by the customer. Consumption on the remaining accounts, for which no readings are obtained, is usually estimated, with the exception of commercial customers. These estimated readings are of course automatically adjusted when the next regular reading of the meter is taken.

Q. Do you devote attention to reducing the cost of meter 6735 reading? A. Yes, we try to keep the cost as low as is consistent with the duties that we ask the meter reader to perform. I have listed some of those duties. In our force of 74 meter readers, who now not only read the meters but perform the other items which we have discussed, they take care of the metropolitan St. Louis, St. Louis County and four adjacent counties in Missouri, as well as certain areas in Illinois including East St. Louis and Alton, a small terri-

—2,867—

tory in Iowa, and including the city of Keokuk, Dallas City and Fort Madison, all in Iowa. The total area is about 3,100 square miles.

The cost per customer of reading these meters and handling the other re-reads and doing the work itemized is about 45 cents per customer. In example, in the year 1939 the expenditure was $161,284, representing a cost per customer of 45.2 cents. This cost varies within limits from 40 to 45 cents, depending on varying conditions.

6737 The accounting has a little effect on it, the question of whether you allocate your heat, lights, building expense, air conditioning, and things like that to the bill work, or whether you keep it in a separate account and set it up by itself. Some people do it one way and some the other. In our case, we allocate all the expenses in the billing division to the billing, and credit the collections to such items, in other words distribute the expenses of the office, even to the extent of the cost of the air conditioning.

Q. Do your customer billing departments have an effect on good customer relations? A. Did you say the customer

6738 billing departments?

Q. Yes. A. Well, to the extent that our rates are low, I should say that the customer billing departments would have a good effect. I know that the meter reading and the people that are in contact with the customers do have a good effect.

In other words, our relationship with the customers is extremely good. The contact is principally through the meter reader, himself. We have a department which takes care of customers' service calls, and we try to be as polite and courte-

ous as it is possible to be, and to the extent that I have had contacts with that division—I used to be very closely associated with a division of that work—I feel that the customers are well satisfied with the service that the company renders, and I think most of them are pretty good friends of the company.

Mr. Browning: We have now reached a good stopping point, Mr. Examiner, and I suggest that the hearing be adjourned until Monday morning.

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The Examiner: I understand that you are going to continue next week with Mr. Stokes, is that right?

Mr. Browning: With Mr. Stokes and possibly other witnesses, that is right.

The Examiner: All right, I think that is a reasonable application, and the hearing is now recessed until next Monday morning at 10 o'clock.

(Whereupon, at 4:15 o'clock, p. m., the hearing was recessed until 10:00 o'clock, a. m., Monday, October 28, 1940.)

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6742

BEFORE THE

Securities and Exchange Commission

Docket No. 59-10

IN THE MATTER

of

THE NORTH AMERICAN COMPANY, *et al.*

6743

Hearing Room 1101,
Securities and Exchange Commission Bldg.,
Washington, D. C.,
Monday, October 28, 1940.

Met, pursuant to adjournment, at 10 o'clock a. m.

6744

Before: W. W. SWIFT, *Trial Examiner.*

Appearances:

S. PEARCE BROWNING, JR., and CHARLES S. HAMILTON, JR., of Sullivan & Cromwell, 48 Wall Street, New York City, Attorneys for the Respondents.

RALPH C. BINFORD and HERMAN ODELL, Attorneys for the Securities and Exchange Commission.

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PROCEEDINGS

The Examiner: The hearing will come to order.

Mr. Hamilton: Will you resume the stand, Mr. Stokes?

Whereupon, STANLEY STOKES resumed the stand and testified further as follows:

Direct Examination by Mr. Hamilton (Continued): 6746

Q. Will you refer, Mr. Stokes, to Respondents' Exhibit No. 54. Last week you undertook to get for us the basis for the caption heading appearing on that exhibit, and stated as being the "B. t. u. per Switchboard Kilowatt Hour". Please state whether the kilowatt hours referred to represent net output or gross output? A. Those are net output. I had the figures verified and checked them carefully.

Q. This represents, then, net output from the generating stations? A. That is right.

Q. At the conclusion of the least hearing, I believe you were describing the billing and customers' accounting procedure. Will you explain how electric bills are prepared and distributed among your customers? A. Each month the bills are rendered to 349,019 electric; 7,473 gas; and 316 steam customers. Those figures, of course, change monthly, 6747

by slight amounts, but that is the approximate amount or extent of the billing operations.

Individual customers' accounts are maintained and all charges and payments are kept currently posted. The ob-

jectives, of course, are to get bills out promptly and not delay the customers. The customers like to receive their bills regularly; when they get used to a certain date, they want to get it on that date.

To provide accurate and current record of customers' accounts, at all times; to maintain good customer relations, by making the records available to departments who answer customers' inquiries and to perform these operations at the lowest possible expense.

6749 The names, addresses and folio numbers, where used, are embossed on metal addressograph plates, and filed in district order. By "district" I mean the billing district, the various territories having been divided up into individual districts, called billing districts.

The group that does this work also heads up all new customer ledger accounts, and meter reading route, and prepares the semi-monthly payroll sheets, and in addition to that addresses dividend payments to the stockholders of the Union Electric Group.

Other work which the mailing and addressing depart-
6750 ment does includes the sending out of the Union Electric Group's monthly magazine; preparing a portion of the

periodic meter test orders; addressing advertising material for the sales department; and any other work requiring the use of the addressograph equipment.

The plate-making operation is carried out on what is known as an addressograph-graphotype machine, and a voluminous addressing operation is accomplished on the addressograph equipment built for that purpose.

Customers' bills are addressed on a district basis just prior to the district billing dates, so as to reflect all changes in customers' names and addresses made during the month. This group cooperates closely with the billing group in maintaining the schedule set up for rendering bills.

Q. What are the subdivisions of the billing and customers' accounting division? A. Well, I take it that you refer to the district separation or division? That is, the billing district, which starts out by representing a given territory which the meter reader covers, is the basis for all the succeeding 6752
operations, because the meter-reading sheets and records are followed by billing and accounting records, all on the district basis.

You see, it would be a practical impossibility with so many customers to get out all bills on one day of the month for the entire number, or to read all meters as of one day of the month; it simply couldn't be done, so they are broken up into continuous operations, so that one district is billed

on, say, the 18th of the month, and another on the 20th, 6753
and so on. So that the performance is a continuous operation, and the month's energy as reported as kilowatt hours sold, is just an arbitrary cutting-off point, once a month, on this billing operation.

Q. Now, state whether you have a customers' record division, and if you have, explain what its functions are? A. Well, the chief functions of this customers' record division which we do have, are the opening of new ledger accounts for customers when service is connected, and closing the account when service is discontinued. Also, the preparation

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of monthly bills to customers, the maintaining of accurate records of customers' accounts.

This group opens the customers' ledger accounts from the record of service applications, contracts, or any other source indicating the fact that the customer has started to use service. It closes these accounts upon receipt of executed disconnect orders.

If a new service order covers a new premise, it is necessary to insert a new meter route sheet in the meter reading
6755 book. If, however, the order covers an old premise, the new order is entered on the existing meter-reading sheet unless there is a change in the class of service.

New ledger sheets are made up on all orders except those
—2,874—
involving change of load or rate, corrections of load, and meter changes. This group also enters the change of rate data, meter changes; merchandise, lamp and sundry charges, and all other billing data pertaining to customers' accounts.

The amount of such entries annually was: 107,686 applications for service; 161,022 appliance charges; 137,673
6756 lamp and sundry charges; 107,254 disconnections of service. Those figures were taken for the past year, but that is just an indication to show the extent of the work.

The residential and small commercial accounts group transiers meter readings, prepares and proves the monthly bills to customers on the rate schedules, and accumulates revenue and statistical data required on these operations.

The large commercial and industrial special contract group enters demand readings and manually prepares monthly bills for the larger accounts. The volume of the

large accounts does not warrant special billing equipment as is used on the residential and other types.

Many of these bills are based on meter readings taken at the end of the month, instead of at the regular district scheduled reading dates, so that the billing period will correspond with the calendar month to meet the customer's accounting requirements. These large customers are big industrial firms, and they have their own accounting problems to meet, and have requirements for making reports on calendar dates,

—2;875— 6758

and as long as there are not such a huge quantity of them, we make every effort to meet their requirements by making special meter-reading periods for them.

This same contract group, also manually prepares bills for the steam service in the business section of St. Louis. Steam meters are read at the end of each month by the steamheating department and bills are rendered promptly after readings are received.

The annual production of the above billing groups consist of: 3,303,154 electric bills mechanically prepared; 885,102 electric bills manually prepared; 3,793 steam bills manually prepared; and 89,659 gas bills manually prepared. 6759

Those gas bills are for the St. Louis County Gas Company, which is a separate company, but operated with the same help and facilities.

In the areas where the billing operation has been mechanized, Burroughs Public Utility Billing Machines are used. These machines simultaneously print the bills, record the charges to customers' ledger accounts, and produce a tape showing accumulated totals, which provides an efficient method of proving the billing operations.

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The bills are set out on ordinary United States one-cent post cards, which are sent to the printers, where the various bill forms are imprinted on the cards.

The bookkeeping section posts and balances customers'

—2,876—

accounts, maintains the accounting controls, and prepares journal entries to record customer accounting transactions. This group is responsible for sorting and posting cash stubs received daily from the cashier's division to the individual
6761 customer ledger accounts. Postings are made by date stamps imprinted above amounts paid, requiring minimum posting time. All posting is proved by comparison of adding machine totals of items posted out, with adding machine tape totals of the cash stubs received.

Also, in their duties is included the maintaining of accounting controls on all customer ledger accounts, including large commercial, steam and gas accounts.

Further, they are engaged in preparing journal vouchers recording revenue from electric, merchandise and steam sales; charges to uncollectible accounts; transfers and ad-
6762 justments; and any other entries affecting the customers' accounts.

Q. How frequently are customers' accounts balanced? A. Customers accounts are balanced monthly. In order to maintain an accurate control of accounts receivable, all customers' accounts are balanced on a cycle basis, monthly. That has to do with my previous explanation of the fact that these billing operations are continuous, and there are roughly 20 or 25 billing districts, and you have got to establish a point of beginning and ending for the month, by

just an arbitrary basis, but the cycle is exact and repeated.

—2,877—

To facilitate this balancing, each territory served is broken down into these districts, which in turn are subdivided into what we call controls. The purpose of the balancing operation is to verify the correctness of all entries, including charges, payments, transfers, adjustments and corrections made during the month. This is one of the most important operations of the bookkeeping group.

The ledger cards, which record the customer's account, 6764
are filed in district and address order, and contain meter and rate data for individual customers, and show the customer's name, date of contract, readings in kilowatt hours used, charges and credits. Collection information is also recorded on these cards. That is, they make notes on the cards as to a man's credit rating.

Q. Is the work of the division that you have just described coordinated with the work of the other departments of the Union Electric Group? A. Well, they do have to cooperate very closely with the other departments. The credit, adjustment and collection division uses current customer ledger 6765
accounts extensively in determining the credit of customers. These ledger cards are filed near this group, and are available at all times.

Records of customers' use at former addresses, and of uncollectible accounts, are also readily available.

Adjustment and collection operations are likewise facili-

—2,878—

tated, as a complete record of the customer is obtainable, resulting in selective collection action and speedy and efficient answers to customers' inquiries and complaints.

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The sales department currently prepares analyses of consumption by rates and classes of service in connection with continuing rate studies, and the close coordination of the billing and customers' accounting group assists materially with this work. The nature of the operations of the meter department, electrical distribution department, and cashier's division of the treasurer's department, also requires the close coordination of the billing and customers' accounting group.

Q. Is the unit cost of these operations kept at a low level?
6767 A. Yes, the cost is kept at a very low level. They have 156 employees required to execute the addressograph work on customers' accounts, record customers' orders, render bills, and maintain records on customers' accounts. The cost of this work for the year 1939 was $.7571, slightly over 75 cents per customer, for the total operation.

Q. That is on an annual basis, is it not? A. Yes, and the figure that I read was for the year 1939.

Q. Now explain, if you will, how applications for service are handled in the Union Electric Group? A. We make every effort to make an application for service the simplest possible
6768 —2,879—
operation. That has not always been the case, because I can recall years ago, when I first went to work for the company, that it was quite an operation to get service, a rather formal matter. You had to make an application and fill out a contract; either a salesman had to go and call on you, or you had to go and hunt up the office somewhere; and frequently a meter had to be set.

All in all, it was one of the things that you had to anticipate some time in advance if you wanted to move.

6769

Today, the meter is usually left in place, and there is very little formality. The customer can get electric service by throwing in a switch, when he goes into the house, and make what little arrangements have to be made later.

The service orders are immediately executed upon application, for the convenience of the customers. Application may be made in person at the Union Electric's main office, or at any of its branches, or subsidiary company offices, or may be made by telephone or by letter.

6770

In most of the territory served, residential and commercial customers, moving in to previously occupied premises, may start service at once by throwing in their own switch, and accommodating us by mailing in what we call a meter tag. There is a tag left on the meter and the customer can take that, and close in the switch and send the tag in, and he fills out the application which is attached to this tag.

—2,880—

The usual application for residential service is simply in a form requiring only the customer's name, address, occupation, and location of employment, and the location at which service was formerly used, if any.

6771

Commercial applicants execute a service agreement which is also relatively simple in form. The whole effort is to make the operation simple and convenient, and to have a lack of red tape.

The way the thing works is surprisingly well. Some of these methods were adopted with some thought that they might cause considerable difficulty, but nothing of any consequence ever arises. The company wouldn't think of going back to more elaborate requirements for these contracts.

Q. What is the general nature of the group's credit policy? A. Very, very liberal credit policy is followed. As a matter of fact, our credit deposits are not at all extensive. An average of about 9,000 applications for service is received every month, the majority of which are successor connections, due to a customer moving from one address to another. All customers who have a good or fair paying record at a previous address are granted credit immediately, as are new customers whose credit indications are satisfactory.

6773 Surety deposits are required only of previously poor-paying customers, or new customers where there is some reason

to consider them to be of doubtful rating.

The amount of deposit, when required, is usually the equivalent of bills for two months' service. It is the general practice to refund surety deposits, with interest, after a customer has established a fair paying record over a period of 12 months. We try not to retain any more surety deposits than are absolutely necessary. Surety deposits on hand at the end of 1939 numbered approximately 19,600, amounting

6774 to a total of $138,850, or an average of about $7 per deposit, for all classes of customers.

Residential customers' deposits ordinarily do not exceed, at the most, $5 each. The ratio of the number of surety deposits on hand to the total number of customers served, is about 5 per cent.

The company will also accept guarantors in lieu of surety deposits, in case customers are not able to otherwise establish a credit, a satisfactory credit.

In addition to the surety deposit policy, customers are also granted liberal installment terms on merchandise pur-

chases, for which a nominal carrying charge is made. In order to encourage the use of electrical appliances, this convenience is extended to purchasers of merchandise from other dealers independent of the Union Electric Group. In other words, we frequently make credit installment arrangements through small dealers so that they can extend credit to their customers for the purchase of electric appliances.

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That will be discussed later in more detail.

Q. Are discounts provided for prompt payment of bills? 6776
A. Yes, there is a discount on the residential bill—well, on all bills—of 5 per cent. on the first $25 of the monthly bill, and 1 per cent. on all over $25, if payment is made within 10 days after the date of billing.

Some of the rate schedules provide for a straight discount of 5 per cent. for prompt payment. Certain power and municipal contracts are executed on a net basis, and do not provide for such discount.

Forfeited discounts, where the customer does not pay within the scheduled period, are frequently allowed on bills paid from one to several days after the last discount date, 6777 provided the customer has a good past paying record, or has a valid excuse.

For example, in the summer time, people take vacations who are otherwise prompt to pay, and when they come in we make an allowance for that, and they don't lose their discount.

Q. Who handles the collection of customers' accounts, and the adjustment of customers' service inquiries? A. Well, that is the principal function of the credit and collection

division. Their job, in addition to passing upon the credit of applicants for service, is to collect past due accounts, and to handle customers' service inquiries and adjustments. We

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keep constantly in mind, in carrying out all of these functions, to maintain good public relations by following a liberal collection policy, and by giving delinquent accounts selective attention.

In general, collection treatment is accorded only to ac-
3779 counts which are two months or more delinquent, if previously good or even fair pay; and one month delinquent if of poor pay reputation, and if in arrears by over $3.

Delinquent accounts to be given collection treatment are selected individually each month by experienced and responsible collection division employees, and the general practice is to grade the accounts for collection effort, beginning five days after the last discount date. That would be 15 days after the date of billing, the discount period being 10 days—and classify them into about three divisions: customers with good or fair past paying records are in the first division,
3780 and for those they send a little notice calling attention to the fact that they probably forgot to pay their bill, but nothing is said about collection or cut-off.

Now on the second class, new customers with unknown credit, this little reminder notice is usually followed up within about 5 days by a mail or collector cut-off notice, and after another 5 days the collector will call.

Customers in this class are given every opportunity to pay or make satisfactory arrangements, without actually cutting off the service.

—2,884—

6781

In the third class, customers which are frequently delinquent, or what are known as habitually poor pay—two mail notices, spaced 5 days apart, are followed up by collectors or cut-off men, after another 5 days.

In other words, they don't just treat everybody alike, but they take into account the customer's previous record, and our actual experience with his habit of paying his bills.

Disconnection of service for non-payment of bills is made only as a last resort, and even then it is frequently deferred to avoid distress, or inconvenience to the customer in case 6782
of illness or for other just cause. If there are any doubts, they are resolved in favor of the customer. This is evidenced by the fact that in the three largest divisions of the system, comprising over 300,000 customers, cut-offs averaged less than one-half of one per cent. during 1939. Reconnections, after having been cut off, during the same period and for the same divisions, average approximately 80 per cent. of the number disconnected.

Charges ranging from 75 cents in the metropolitan area, to $1.50 in the rural territory, are made to customers for reconnecting the service. 6783

Irregularities and current theft cases are given individual treatment by trained investigators and adjusters. The number of such cases in relatively small in proportion to the

—2,885—

total number of accounts with which the collection department deals.

Employees of the credit and collection division assigned to the handling of customers' complaints and adjustments, are carefully selected, and are given preliminary training for

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that work, as well as close supervision in the performance of their duties.

The policy of the Union Electric Group toward high bill complaints is liberal, and each case is considered as an opportunity to improve customer relations. In other words, a customer coming in and complaining about a high bill may have a just complaint, and there may be something wrong. Frequently there is not. In any event, he is a customer who, if he goes away dissatisfied, is a bad thing for the com-
6785 pany. So they give those customers careful attention and go right out and investigate their complaints, and try to run them down and establish the facts, and if there is any doubt about the complaint, they resolve it in favor of the customer until he repeats the thing too often. Most of them don't.

When high bills are found to be excessive, due to losses of energy not preventable by ordinary prudence, an offer is made to share the loss and the customer is advised to rectify the conditions. Once in a while there is a ground or partial ground in a customer's premises, beyond the meter, and the
6786 current is registered through the meter, and goes to earth

without enough of it to blow a fuse, and the customer may have a very high bill. It sometimes can run up an extremely large bill in one month. We know, of course, that the customer got no use out of that, and that we didn't lose the retail price of the energy, we lost the cost of it, so we make an effort there to adjust it with the customer.

Division supervisors at all Union Electric Group offices are easily accessible, and every effort is made to give prompt attention to each customer who has any form of complaint.

Q. Can you state the extent of customer contacts arising out of the operations of the credit and collection division? A. There are roughly 49,000 cases handled per month, based on the operations for the year 1939, which might be divided into groups as credit applications for service—107,620 per year, or 8,970 per month; delinquent accounts handled—444,610 per year, or an average of 37,050 per month; customer service problems—32,280 per year, or 2,690 per month.

The combined total for the year of all of these cases was 584,510, or 48,710 average per month. 6788

Q. This is 1939? A. That was for the year 1939.

In the handling of these cases, recorded statistics for the larger communities served to indicate that the credit and collection divisions make about 143,000 customer contacts per month, which can be classified into four groups, such as office contacts per year—251,170; mail contacts, including

—2,887—

collection notices—901,870; collector contacts—298,430; telephone contacts—263,740. Or a total of 1,715,210 per year, or an average of 142,940 per month.

The ratio of approximately 3 customer contacts to each 6789 case handled is an index as to the method of this division. It is felt that much is gained in terms of preserving and improving good public relations by giving each case individual, personalized attention, rather than mechanical treatment. Yet at the same time, it is our effort to accomplish these results with a minimum of expense.

You see, the meter readers and the collection group are the ones that get in contact with the customers, and it is an important part of the company's operations to see that the customers' cases are sincerely and intelligently handled.

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The sales department has continuous contact with the customers, but there are not as many of them, and they don't have as many different people to deal with. So that this other division really establishes, I think, more than any other one group, the company's standing with its customers.

Q. Now is this division organized to operate efficiently and at low cost? A. The organization of this group has received probably as much study as any group in the various
6791 group of companies, and the different subdivisions cooperate with each other in a coordinated manner, and they have studied the various possibilities by which costs could be re-

—2,888—

duced.

I can recall a number of years ago that a study at that time indicated that with the then development of billing machines, and the then cost of labor, it was questionable whether we could really afford to use the billing machinery. Since that time the machinery itself has been improved, salaries have been increased, and our company's business has
6792 multiplied. So that today it is economical to do so, and it is a matter of making continuous studies of that type that keep the total costs reasonable.

They have round table discussions periodically to educate and improve the efficiency of the personnel engaged in this work, and division supervisors are encouraged to exchange ideas on methods in order to promote better results, as well as to reduce costs, whenever commensurable with the continuance of the collection policies, that is, as to giving the customer personal attention. We try to keep the costs as

low as possible, but not without regard to the service rendered.

Q. Now indicate very briefly, if you will, the unit cost per customer of the operations of the credit and collection division? A. The credit and collection division, and its coordinated operations, including the cost of customers' contracts and orders, the pay and expenses of all employees

—2,889—

engaged in work on customers' applications, contracts, orders, complaints, and inquiries, as well as supplies and 6794
expenses incurred in connection therewith, such as transportation, stationery, postage, building service, including light, heat, refrigeration and janitor work—all those costs are allocated to the billing and collection department. There doesn't seem to be complete uniformity in the accounting in all companies in this respect. Some companies do not allocate the value of the floor space and the light, heat and rent, they keep that as a separate item by itself, but in our case that is all included.

These costs, in terms of dollars of gross electric, heating and gas revenues, excluding energy sales to subsidiary com- 6795
panies, have averaged as follows—well, I won't take the time to go into the details of the make-up of this thing, but I am just going to read the total cost per customer. That is 25 cents per customer for the entire operation for the year 1939. It doesn't vary a great deal, it seems to run within a cent of that amount right along.

—2,890—

The cost of credit investigations and records includes the pay and expenses of employees engaged in investigations of customers' credit, and the keeping of records pertaining there-

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to, the cost of handling surety deposits, credit reports from commercial agencies, and supplies and expenses, such as transportation, stationery, postage, and building service. These costs, accumulated for the year 1939, were 7 cents per customer.

Summarizing, those represent credit investigations and records expense.

Now, the collection expenses include the pay and expenses of tellers and cashiers, and collecting agents' fees, collectors
6797 and other employees engaged in collecting customers' bills; the cost of disconnection and reconnection work; and transportation, stationery, postage and other supplies used and incurred in connection therewith. This expense, including those items for the year 1939, was 64 cents per customer. That 64 cents applies to collecting expenses.

The next item is the uncollectible accounts' losses. Uncollectible accounts losses are relatively low, giving evidence to the efficiency with which the methods of the credit and collection division are carried out, even with the liberal policies in effect, and every consideration accorded to the cus-
6798 tomer. The total losses, in terms of revenue per customers were, for the year 1939—24 cents.

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The sum of all these items of expense per customer for the year 1939, which includes customers' contracts and orders, credit investigations and records, collecting expenses, and uncollectible accounts, amounted to $1.20 per customer.

I would like to state this. It is difficult to get any comparison as to whether these figures are really high or low. It is hard to ascertain that, and about the only basis upon which I could relate this would be to obtain some form of

national comparison. It happens that the only such comparison which I have been able to obtain is from a customer's accounting and collecting expense report from the records of the Federal Power Commission for 1938, a report entitled, "Statistics of Electric Utilities." Now, in 1938, our costs per customer happen to be $1.19, instead of $1.20, it varied a penny, and I should explain that there are certain variations in accounting practices. I mentioned it briefly.

Now, in looking over a list of some 26 companies in the United States, with 200,000 customers and over, for the year 6800
1938, as reported in "Statistics of Electric Utilities," by the Federal Power Commission for that year, I find that the Union Electric Company of Missouri was rated sixth with respect to this expense.

Mr. Odell: Before you go into another line of testimony, I have a little difficulty in seeing the relevancy of all this testimony dealing with the operations and work and policies of your credit and collections division, and I would like to have you point that out, if you will. 6801

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Mr. Hamilton: Mr. Examiner, I don't intend to spend much time on this. It seems to me apparent that there is more to running an electric business than just generating hours of energy. We are presenting, and have presented in the case of the other groups, a picture of how these companies operate. Now, I wouldn't say that we have to spend much time on this, I don't want to spend much time on it, but this is just to complete the presentation, in any attempt to give a

6802 *Colloquy*

well-rounded picture of the way the company operates, and too, wherever possible, point out comparisons. That is what we have attempted to do.

The Examiner: Well, this seems to me to be just in line with the pictures you have presented of Washington and Cleveland.

Mr. Hamilton: That is correct.

The Examiner: And I don't think it is unreasonably long, Mr. Odell, and I think it is relevant.

6803 Mr. Odell: I wasn't putting it in the form of an objection. I was just asking a point of information.

Mr. Hamilton: I don't intend that it shall be extended at all, I am going to try and keep it within reasonable limits.

Bearing in mind, Mr. Stokes, that we don't want too much detail on this, state very briefly what the

—2,893—

practices of the Union Electric group are with respect to centralized purchasing?

6804 The Witness: The purchasing department of the Union Electric Company of Missouri, or what we have been calling the Union Electric group, purchases all material and supplies for the following subsidiaries, in addition to the requirements of the Union Electric Company of Missouri, as an operating company: Union Electric Company of Illinois, Lakeside Light & Power Company, Union Colliery Company, St. Louis & Belleville Electric Railway Company.

There are one or two other associated little companies, which the purchasing department would pur-

chase for as well, but they are not very active, and this is the chief group that actually uses much material.

The Department also purchases materials and supplies for the St. Louis County Gas Company, which is an affiliated company, and advises with and makes some purchases for the Iowa Union Electric Company and the Mississippi River Power Company, both subsidiaries.

The centralized purchasing is of considerable 6806
monetary importance to the group, some of which, for example, have occasion to buy a type of material very seldom, but which material may be used in great quantities by one of the other companies. As an individual buyer, they would not get a good price, and

—2,894—

centralized purchasing has very beneficial effects for some of the smaller groups.

Q. Does the operation of a centralized purchasing staff 6807
make possible a more rigid control of the quality of the articles purchased? A. Yes, it not only provides a closer control of quality than could be obtained by the individual groups, but the individual groups could not afford the specialized staff. For example, the staff of the department includes 7 buyers, two of whom are graduate electrical engineers and another of whom is a graduate mechanical engineer. In addition, they have a full time salesman who handles the ... of surplus materials and scrap; and a traffic clerk with 15 years' experience in transportation prob-

lems, and a statistician whose duties include market studies and the maintaining of price records.

Now, a small company, or one which does a smaller volume of purchasing, and a good example would be the Union Collieries Company, which runs a coal mine, and whose chief business is getting out coal, but who does use electrical equipment—well, their purchases of electrical equipment would be small in volume and they couldn't possibly maintain any of this type of help. So that it is quite an aid to
6809 those companies who get higher quality men than they could possibly afford for themselves.

The control of the quality of the goods is obtained without additional cost, either, because the division of this help, —2,895— scattered through the various groups, with respect to the quantity being purchased, makes the actual cost of purchasing considerably less.

I notice a figure which sticks in my mind as an example, of $535, billed last year to the steam heating division for purchasing work. Now, that is part of the company itself,
6810 but it was just an item that I happened to observe, where the estimated cost of that would be four or five times that amount, minimum.

Now, in the control of the quality of material, we take poles, for example, creosoted pine poles, and they are inspected on a blanket contract by an inspection agency for both Iowa Union Electric Company and Union Electric Company of Illinois. This service would be more expensive if their volumes were not included with that of the Union Electric Company of Missouri.

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In looking into a new source of supply for mine timbers, this same inspection service was made available to the Union Colliery Company through the purchasing department's close contacts on poles. All line tools and safety devices purchased for the group, are routed through one of the operating divisions for inspection and test, thereby providing not only closer control of quality, for the subsidiaries, but also increasing the assurance of safe equipment. A small company wouldn't have facilities to test those things, they would have

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to take them on the assumption that they were all right. That has to do with things like rubber gloves and devices that linemen use.

Q. Are you able to state any other advantages which accrue to the group out of the use of a centralized purchasing agency? A. Yes, there are many such advantages. The purchasing department can frequently be of special service because of its broad contacts and experience in analyzing proposed knowledge of transportation problems, and availability of engineering buyers for follow-up trips to manufacturing plants to inspect the equipment, and to expedite its shipment. Where the nature of equipment is highly technical, the services of the electrical engineering department are also loaned to the purchasing department for such inspection. 6813

For example, just before leaving here, or rather just before leaving St. Louis for here, I turned over one of my men to the purchasing department to send to the Westinghouse plant to inspect some switch gear that was just ready for shipment, that being of a very technical nature.

studies, but the Sales department has certain contacts with the rate department in the application of the rates.

—2,985—

Continuing—clerical and home service, and to a certain extent, advertising work.

Mr. Berry is 54 years old, and has been with the company 29 years, 5 of which have been in his present position.

His first job with the company was in 1911, as a salesman.

We have one rather unusual position, that of dealer sales counsellor. Mr. William P. Mackle holds that position. He correlates the merchandising and promotional activities of the company with those of other dealers, and represents the contact between the companies and the group of appliance dealers throughout the city. That work has been very successful.

Mr. Mackle is 43 years of age and has been with the Company for six years.

The work of the sales department is sufficiently important that I should like to describe just the leader in several of the major groups.

Mr. Paul W. McCormick is in charge of the industrial sales division. He is a man 41 year of age and a native of St. Louis, and has been an industrial engineer for the company since 1928.

Mr. Philip V. Brown is in charge of the residential sales work. He supervises the activities of 16 employes, including a group of women who are home lighting advisers. He is 48 years old and has been with the company for 19 years.

Mr. Robert L. Coe is in charge of the merchandising division. He is acting merchandise manager and supervises and

—2,986—

directs 36 employes of the division in the sale of merchandise at five stores.

In addition, Mr. Coe, with the help of an assistant, instructs the supervisers of the other merchandising division. He is 32 years of age, a native of St. Louis, and has been with the company for 11 years.

The rural service division is under Mr. Edgar J. Gildehaus, as acting manager of the rural service division. He is 33 years of age, a native of St. Louis, and has been in his present position for the last three or four years. 7022

Mr. Carter Lewis is in charge of the industrial and commercial lighting division, and is the acting head of the commercial sales division. His specialty is illuminating engineering. He is 42 years old and has lived in St. Louis all his life.

He not only went to Cornell University, but continued his education at Washington University. He has been with the company for 16 years, three of which have been in his present work.

The industrial heating division is under the direction of Taylor S. Carter, industrial heating engineer. He is 59 years old, and has been with the company for 19 years, mostly 7023 engaged in similar work.

Mr. Freund is in charge of the air conditioning division. He is development engineer in the air conditioning work. He

is 48 years old, has been with the company 19 years, 11 of which have been in the present work of air conditioning.

Mr. Freund has been very successful in promoting air conditioning work, of which St. Louis is justly proud. We do not make the installations, but we coordinate the work, and we do engineering work for customers and act as con-

7024 *Stanley Stokes—By Respondents—Direct*

tact agent between a customer and a contractor, and do everything possible to assist the promotion of air conditioning work.

The isolated plants division, and the heavy power applications are under the direction of Mr. Frederick V. Armistead, development engineer. He is 42 years of age and has been in the service of the company for 11 years, 5 of which have been in his present position.

Mr. Adolph I. Friemel has been engaged on various forms
7025 of rate application for the sales department. He analyzes to see whether the sales department is properly applying the rate to a particular case. He reports to Mr. Michel. He is 59 years old, has lived in St. Louis for 36 years, and has been with the company for 31 years, 12 in his present capacity.

I would like to mention Miss Kate Carroll. Miss Carroll supervises and directs the work of 38 employes in connection with sales contracts and other matters, and has been in the service of the company for 35 years. She is 51 years old and has lived in St. Louis all her life. She is a very responsible part of the sales department.

7026 —2,988—

The advertising work of that department is carried on by Mr. William K. Holland. He is 38 years old, a native of St. Louis, has lived in that city most of his life, and has worked for the company for seven years.

Mr. E. H. Tenney is in charge of steam power generation. He has been in the service of the company for 35 years, 22 of which are in his present position. He is 59 years old.

Mr. Tenney is one of the most responsible—has one of the most responsible jobs in the technical work in the company, and is at present engaged in carrying on, in addition

to the operation of the steam power plant department, he has one job at present at the Ashley Street station construction work representing $1,600,000, in addition to which he is a member of a committee of three—I am one of the members, he is one, and Mr. Miltenberger is the third—who are responsible for the design and general installation of the Venice plant which is now under construction.

Mr. Tenney's supervision covers 688 employes who are engaged in both construction and operation in the steam engineering division. He is the chief mechanical engineer 7028
and carries on engineering studies with respect to steam matters.

His assistant is Mr. G. V. Williamson, who is 39 years old, has been with the company 18 years. Mr. Williamson made one of the most rapid rates growth in the company of any young man with whom I have been acquainted. He is a very able engineer and has very responsible work at the

—2,989—

present time. He is Mr. Tenney's assistant. He has been in his present position for 15 years, and has been with the company for about 18 years. 7029

Also reporting to Mr. Tenney is the steam engineering and drafting division under the direction of Mr. Carl H. Rulfs. He is 45 years of age, born in St. Louis, and has lived there all his life.

He has been 24 years with the company, all in engineering and drafting work, and he is chief draftsman.

—2,990—

Mr. J. B. Wheeler, who also reports to Mr. Tenney, is the mechanical superintendent in charge of the Ashley Street

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Station. He is 50 years of age, and has been with the company for 24 years.

One of my first jobs with the company was working with Mr. Wheeler, measuring some piling on the Page Avenue substation, and since that time Mr. Wheeler has occupied a number of positions. He is now in responsible charge of the Ashley Street station.

The mechanical superintendent in charge of the steam operations of the Cahokia power plant is Mr. Edward Lux-
7031 emberg. He is in charge of all steam work at the Cahokia station.

He is 63 years of age and has been with the company 32 years in various capacities.

Mr. Lester L. Kraft is the assistant mechanical superintendent, and is going to be—or is in charge of the work at Venice. He is in charge of Venice Plant No. 1, and is probably destined for charge of the new plant.

He is 44 years of age, has been with the company for 23 years.

The superintendent of supply service is Mark B. Covell.
7032 That is another way of stating in charge of all purchasing.

Mr. Covell reports directly to the management. He is 39 years of age, in charge of 43 employes in the purchasing division, and in addition has 75 employes in the building

division and 35 in the garage work, which is also under his supervision.

He has been with the company about 2 years, I should say.

We discussed the purchasing at some length previously. Mr. Covell is in charge of that work.

His assistant is Mr. Roy Goss, who has 43 employees reporting to him. He is 47 years of age and has held his present position for about 5 years. Previously he was a buyer. He has been with the company for 32 years.

Mr. E. H. Lewis is in charge of suburban operations of the Union Electric Company of Missouri, and is vice president of the St. Louis County Gas Company. He has approximately 1,000 employes under his supervision, and is responsible for the engineering, construction, maintenance, operation, service and customer's accounting in the suburban division— 7034
that is, the St. Louis County division—of the Union Electric Company of Missouri, and is in responsible charge of the operations of the St. Louis County Gas Company.

Mr. Lewis reports to the executive management of the company. He is 51 years of age, and has been in the employ of the company for 25 years.

He is a graduate of the University of Missouri. His first position with the company was cost analysis engineer.

I arranged to get Mr. Lewis his position with the company

because I had known him at college, and thought he was a 7035
very able man at the time. He made quite a development in the gas company operations out there. I think Mr. Lewis is entitled to great credit for the work he did in pioneering the gas plant, which is a leader of its kind in the country. It is not such a very large plant, but it is very efficient.

The financial officer of the suburban division is Mr. Dudley Sanford, with the title of assistant treasurer. He is 47 years of age, a graduate of Missouri University, a native Missourian. He has been in the employ of the company

for 21 years, and is treasurer of the St. Louis County Gas Company as well.

In addition to his regular duties as assistant treasurer, for the Electric division and treasurer of the Gas Company, he looks after all accident and claim work for the suburban division, and has charge of the St. Louis County stenographic, mailing and filing divisions, and acts as the representative of Mr. Lewis during the absence of Mr. Lewis.

He also has general supervision over the credit and col-
7037 lection work, billing and meter reading for the county. In his specific department there are 29 employees.

The supervisor of the St. Louis County billing division is Mr. William C. Gebelein. Mr. Gebelein is only 47 years old, but he has been with the company for 28 years. He was first employed in 1913 as a clerk. He has charge of all

—2,993—

billing matters for the county division, both gas and electric accounts.

Mr. Ned Crider is in charge of the distribution engineering for the suburban division. He is 50 years old, a graduate
7038 of Missouri University, a native Missourian, and has been with the company since 1914.

You will note that a very large percentage of the men in responsible charge of company matters are graduates of Missouri University. We have a pretty good percentage of them.

Mr. Albert L. Strother has charge of the construction and operation of both the electric and gas distribution systems in St. Louis County. That is, he is in direct charge of the distribution lines. He is a native Missourian, 48 years old, and also a graduate of Missouri University.

7039

He came with the company as cadet engineer just out of college, and is now superintendent of distribution and has been since 1926.

He has 399 employees under his direction.

Mr. Strother has been with the company for many years, because I have known him for more than 20 years. He used to work for me when he first came with the company.

Mr. Oscar Huffman is general foreman of the meter and installation division. He is 53 years of age, and has been with the company for 33 years, 23 of which have been in his

7040

present position. He came with the company as a lineman in 1907.

Mr. Henry G. Roeder is one of the older men with the company, who has been in actual outdoor line work for 27 years, 17 of which have been in his present position. He is 59 years of age.

By Mr. Hamilton:

Q. What is his function? A. He is one of three general foremen in charge of all overhead line crews for the suburban division. I mention him primarily because he is one of the men in responsible charge out there who has been in that particular line of work for so many years. That type of work is frequently regarded as more or less floating type of work. The linemen move around considerably. But the linemen for this group of companies are well paid and they are permanent, they don't move around.

7041

Mr. Harry Wolf is one of three general foremen in charge of all the gas main work. He is 53 years of age, has been

with the company for 33 years, 23 of which have been in his present position.

He is superintendent in charge of gas main construction.

Mr. W. L. Jones, Walter L. Jones, is sales manager for the St. Louis County division of the Union Electric Company of Missouri, and the St. Louis County Gas Company. He is a native Missourian, has been in the employ of the company for 20 years, of which 17 years have been in his present position.

7043 —2,995—

He reported to me as manager of the De Soto office at one time. That was one of the cities in the outlying plants division, and then later he was superintendent of the St. Charles division. In his present position as sales manager he directs the activities of 104 employees, and also has connection with the advertising work as well as the sales work.

The superintendent of sub-stations for the St. Louis County division is Mr. James S. Shaw. He has 60 employees under his general direction, and has charge of the maintenance and operation of the County major sub-stations.

7044 The outlying divisions group of the company are now operated under the general direction of the St. Louis County division, but the superintendent of this group of properties is Mr. Herbert M. Patton.

—2,996—

He reports to Mr. Lewis, who has been previously described. He has complete charge of the operations of the outlying plants group. He is 55 years old and in 1924 he came with the present group of companies and was made sales manager of the outlying plants at that time.

He reported to me then and has since become manager of that group, with which I do not now have any further connection.

There are 170 employes in the group, and a group of division managers for the various divisions such as Franklin County, St. Charles County, Jefferson County, St. Francois County—all of whom report to Mr. Patton. The individual managers of the various properties I believe I will not describe, I will not mention them in detail, although they are all responsible positions and have a good many employes 7046 reporting to them.

The engineering work for the gas company is under the direction of Owen R. Allgeier, who is 50 years old and started with the company in 1916.

He has charge of all engineering matters for the gas company, of the St. Louis County Gas Company, and reports to Mr. Lewis.

The operation of the gas company plant, that is, the plant of the St. Louis County Gas Company, which is located at Shrewsbury, in St. Louis County, is under the direction of Frank C. Meyers. He is 56 years old and has 7047 been with the St. Louis County Gas Company since 1918.

—2,997—

The operations of the East St. Louis Division, that is, in and around the city of East St. Louis, are very closely tied in with St. Louis operations. As we previously pointed out, the load dispatcher handles the whole system as though it were one. But they do have, in the Union Electric Company of Illinois, separate supervisers. The manager of the East St. Louis and Alton Divisions of Union Electric Com-

pany of Illinois is Mr. George W. Welsh. He is directly in charge of these two divisions, that is, the East St. Louis and Alton Divisions of that company. They operate in and around East St. Louis and up as far north as Alton, about 20 miles north, including Hartford and surrounding territory.

There are no power plants or power generations under his supervision because that district acquires its power from the plants which we have previously described.

7049 To give an idea of Mr. Welsh's responsibilities, the following superintendents report to him: superintendent of electric department (all refers to the East St. Louis group and all to the Union Electric Company of Illinois)— superintendent of electric department; superintendent of automotive equipment; safety engineer; power sales engineer; assistant treasurer; manager of the Alton office; merchandise manager; and claims assistants.

That gives you an idea of the extent of his work.

He is 59 years of age and has been with the company for

—2,998—

7050 26 years.

His assistant in the East St. Louis and Alton Divisions is Mr. George P. May, who is actively engaged in the operations of the East St. Louis properties as we refer to them. He is 51 years of age, has been with the company 26 years, 5 of which are in his present position.

He again has a superintendent of electrical matters, Mr. H. J. A. Gerard, who is superintendent of electrical department for the Union Electric Company of Illinois.

He is 58 years of age and has been with the company for 26 years, 8 in his present position.

 7051

An electrical engineer with the company is Mr. George E. Sykes, and by the "company" I refer to the Union Electric Company of Illinois. He is 48 years old, has been with the company for 25 years, 13 in his present position.

The assistant treasurer of the Union Electric Company of Illinois is Mr. Thomas W. Gregory. He carries on all the activities that are ordinarily associated with that job, such as the signing of checks and vouchers.

Mr. Gregory is 68 years old, a native of Illinois, and has been with the company for 38 years, 7 of which have 7052
been in his present position.

He has had various positions, most of his life he has been engaged with the railway companies on the East Side, which properties have been disposed of and are no longer connected with the Union Electric Group.

—2,999—

Mr. Frank L. Rearden is an assistant treasurer. He supervises as well the billing division, credit and collection division in East St. Louis, and the payroll division for both East St. Louis and Alton. That is for the Union Electric Company of Illinois. 7053

He is 65 years of age and has been 31 years with the company, 10 in his present position.

He, as a rule, signs all the checks and vouchers, and when he is absent, Mr. Gregory does that work.

Q. Very briefly, now, the principal operators and executives connected with the operation of the Keokuk District. A. The Keokuk District properties are operated as a separate unit under the general supervision of the main part of the group, that is to say, the load dispatcher and all other activi-

7054 *Stanley Stokes—By Respondents—Direct*

ties like that, handle them as well as they handle any other parts of the group. But they have their own employees because that is the Mississippi River Power Company up there as well as the Iowa Union Electric Company.

Each of the local business offices in the Keokuk District is complete and has delegated to it sufficient authority so that all ordinary business transactions with the customer may be handled without delay.

Matters of policy are always referred through the vice
7055 president up there to the St. Louis executives.

—3,000—

There are 239 employes in the division, of which 134 are employed by the Mississipi River Power Company, and 105 by the Iowa Union Electric Company.

Mr. L. E. Dickinson is the vice president in charge of the Mississippi River Power Company and also vice president of the Iowa Union Electric Company, and is in direct charge of all the operations in that vicinity.

He is 60 years of age, has been in the employ of the company for 27 years. His first position was that of system
7056 operator. The chief assistant to Mr. Dickinson is Mr. Paul L. Mercer. He is in general charge of the division in Mr. Dickinson's absence.

He is 41 years of age and has been with the company for 18 years. He first started as hydraulic assistant and has had various positions.

He is a graduate of the State University of Iowa in 1921. He later got his Master's degree in 1922.

The assistant treasurer of that group of companies up there is Mr. Earl F. Doyle.

—3,001—

7057

He is 46 years old, and has been with the company for 25 years, 15 of which have been in his present position.

He has had varying positions, starting with the job of cashier.

The hydraulic engineer for the Mississippi River Power Company is Mr. Clarence H. Herolfson, He is 51 years of age, and has been with the company for 27 years, 16 of which have been in his present position.

Mr. A. K. Hillemeier is in charge of the electrical engineering for that group, that is, the Mississippi River Power Company and the Iowa Union Electric Company. He has been with the company for 16 years, 13 in his present position. 7058

He is 42 years of age.

The general superintendent of the Mississippi River Power Company is Mr. Frank J. Venning. He has charge of the power plant itself. He is 59 years of age, and has been with the company for 27 years.

The mechanical superintendent at the Mississippi River Power Company is Fred H. Rennert; he is in charge of operation and maintenance of the water wheels and all mechanical operations. 7059

He is 56 years of age, has been with the company 23 years, 13 of which have been in his present position.

The local manager of the Keokuk division of the Iowa Union Electric Company is Mr. G. W. Carlson. He is in charge of the operation of the local electrical distribution in

Keokuk and surrounding territory. He also supervises the gas generation and distribution system at Keokuk for the Keokuk Gas Company.

Local representatives at Hamilton and Warsaw, Illinois, nd Montrose, Iowa, report to him.

He has 41 electric and 13 gas employees reporting to im.

He is 54 years of age, has been with the company for 27 ears, 15 of which have been in his present position.

The Union Colliery Company and the St. Louis & Belle-ille Electric Railway Company are under the direction of Ir. Edgar F. Stevens. He is vice president of the Union olliery Company and the St. Louis & Belleville Electric ailway Company.

He is 50 years of age, has lived in Missouri for the past 7 years, has been with the company for 26 years, and has ad his present position for the past 5 years.

There are 702 employees under his supervision. He was rst employed in 1914 as clerk in the Secretary and Treas-rer's office. Later he was engaged in valuation work and ecame auditor of the Union Colliery Company in 1917.

Since then he has been fuel agent, and during the year 92[illegible] he was general manager of the Union Colliery Com-any, and in 1929 was made vice president of both the Union olliery Company and the St. Louis and Belleville Electric ailway Company. He is in active charge of the operations

f the Union Colliery Company, which is the coal mining ompany; as well as the railway company, which operates a ery short railway line, and which is mostly engaged in haul-ng coal.

Mr. Stevens is a very able operator.

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The assistant to Mr. Stevens in the Union Colliery Company and in the St. Louis & Belleville Electric Railway Company, is Mr. Harvey T. Hildebrand. He is 43 years of age and has been employed by the company for 16 years.

Mr. Edward Leming is general superintendent in charge of the operation and production at the Kathleen Mine of the Union Colliery Company. He is 50 years of age, has been employed by the company for 25 years, and has had his present position for the past 12 years.

7064

He resides at Dowell, Illinois, at which point the mine is located.

Mr. Theodore G. Dyer is superintendent of the St. Louis & Belleville Electric Railway Company, and has charge of its operations. He reports to Mr. Stevens.

He is 52 years old, and has been with the company 25 years, and has had his present position for the past 11 years.

He lives in East St. Louis. He has 67 employees under his direction.

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The manager of the Union Electric Land & Development Company, and the Lakeside Light and Power Company, is Mr. Gordon E. Crosby. He makes his headquarters at

—3,004—

Lakeside, Missouri, which is essentially the location of the Lake of the Ozarks—that is, that is their mailing address—and is right near the Bagnell Dam.

He is 46 years old, and has been with the company 10 years. He handles the land sales and farm rentals for a large amount of excess land which this company, the Union Electric Land & Development Company, holds as a result of the

construction of the Lake of the Ozarks, and the Bagnell Dam.

There are some recreational facilities involved with the Lake of the Ozarks, and Mr. Crosby has charge of those as well as the Holiday House, which is a hotel, and the Casino, a restaurant, and a fleet of excursion boats and other recreational facilities.

He also manages the operation of the Lakeside Light & Power Company, which is a small company doing business
7067 around the lake, and which has been previously described.

Mr. Hamilton: I think this is an adequate stopping point.

The Examiner: All right, we will continue tomorrow morning at 10 o'clock.

(Whereupon, at 4:35 o'clock p. m., a recess was taken until 10 o'clock a. m., Tuesday, October 29, 1940.)

—3,005—

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7069

BEFORE THE

Securities and Exchange Commission

Docket No. 59-10

IN THE MATTER

of

THE NORTH AMERICAN COMPANY, *et al.*

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Hearing Room 1101,
Securities and Exchange Commission Bldg.,
Washington, D. C.,
Tuesday, October 29, 1940.

Met, pursuant to adjournment, at 10 o'clock a.m.

7071

Before: W. W. SWIFT, *Trial Examiner.*

Appearances:

S. PEARCE BROWNING, JR., and CHARLES S. HAMILTON, JR., of Sullivan & Cromwell, 48 Wall Street, New York City, Attorneys for the Respondents.

RALPH C. BINFORD and HERMAN ODELL, Attorneys for the Securities and Exchange Commission.

—3,006—

7072 *John A. Woodbridge—By Respondents—Direct*

PROCEEDINGS

The Examiner: The hearing will come to order.

Mr. Browning: If the Examiner please, we should like to interrupt Mr. Stokes' testimony to put Mr. Woodbridge on the stand.

The Examiner: All right.

Whereupon, JOHN A. WOODBRIDGE, called as a witness on behalf of the Respondents, having been first duly sworn, was
7073 examined and testified as follows:

Direct Examination by Mr. Browning:

Q. Will you give us your full name, Mr. Woodbridge? A. John A. Woodbridge.

Q. And your residence? A. I reside at 9928 Litzinger Road, St. Louis County, Missouri.

Q. Are you a vice president of the Union Electric Company of Missouri? A. I am.

Q. Now will you tell us briefly about your personal history and experience? A. I was born in the City of New
7074 York in 1903.

My early days were spent in northern Westchester County, where I attended the public schools through the grades and high school, and then graduated from the Phil-

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lips Exeter Academy at Exeter, New Hampshire, in 1920.

From there I went to Amherst College and received a Bachelor of Arts degree in 1924. That fall I attended Columbia University Law School and received an LL.B. from there in 1927.

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In the fall of that year I became associated with the law firm of Sullivan and Cromwell, New York City, and was admitted to the New York Bar in April, 1929.

While I was at Sullivan and Cromwell, a large portion of my work from the very beginning was in connection with the affairs of the North American Company and its various subsidiaries. A good deal of that was routine, day-to-day work, but a very substantial part was in connection with security issues of the system, as well as security issues of other companies. 7076

One of the early issues I worked on was the bond issue of the Union Electric Company of Missouri in 1932. There were two issues of bonds in that year on which I worked, and another one following in 1933, under the old General Mortgage of the Union Electric Company of Missouri.

I did a great deal of the legal work in connection with the bond and preferred stock issues of the Cleveland Electric Illuminating Company, another subsidiary of the North American Company; with bond issues of the Potomac Electric Power Company, Wisconsin Electric Power Company, 7077

Wisconsin Gas & Electric Company, Wisconsin-Michigan Power Company.

I also worked on bond issues for the Iowa Power & Light Company and the Missouri Power & Light Company.

One of the largest financings, and one of the most difficult that I worked on, was the Union Electric bond and note financing, in 1937, and then there was another issue I worked on in 1938 for the then Electric Company in connection with its preferred stock issue. The last security issue that I

spent a great deal of time on when I was with Sullivan and Cromwell, was the North American financing early in 1939, which involved the issue of $105,000,000 of debentures and preferred stock.

In May of 1939, I went to St. Louis with Dr. William McClellan; Mr. McClellan was former president of the Potomac Electric Power Company here in Washington. Also Mr. Edward T. Gushee, who was at the time vice president of the Detroit Edison Company. The three of us went to
7079 St. Louis as the new executive management of the Union Electric Company of Missouri, Dr. McClellan as president; Mr. Gushee as executive vice president, and myself as general vice president,—and I have been there, performing the duties of that office, since.

Q. You were at Sullivan and Cromwell continuously from 1927 to 1939? A. Yes.

—3,009—

Oh, I would like to add that I became admitted to the Missouri Bar about a year ago, and just last month formally
7080 enrolled before the Supreme Court of Missouri.

Q. In the course of your financing work, did you have any contact with Commission regulation? A. Yes, practically every security issue that we worked on was under the jurisdiction of one State Commission or another. I believe there was one exception. The Iowa Power & Light Company I don't believe was subject to State jurisdiction. But in all these other cases, we had the problems in connection with the State regulation, in connection with security issues and other transactions that were incident to the particular job.

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Q. As part of the duties of your present position, do you have any contact with matters involving State Commission regulation? A. Yes, that is one of the functions of my office, which covers a number of different branches, not particularly clearly defined.

However, the supervision over the regulatory work with both State and Federal Commissions, is under my province.

In addition to that I have supervision over all the legal work of the company, and tax work, and various other things of a corporate nature. 7082

—3,010—

Q. Are the companies in the Union Group subject to State Commission regulation? A. Without exception, as far as electric and gas utilities are concerned, the Missouri companies have been under the supervision of the Missouri Public Service Commission since 1913, and the subsidiary companies operating in Illinois have been under the supervision of the Illinois Commerce Commission or its predecessor commission, since January 1, 1914.

There is one subsidiary, Iowa Union Electric Company, which operates both in Illinois and Iowa, and as to its local 7083
Iowa operations, there is no Commission in Iowa which really serves the purpose of a State Commission. There is a commission there, the Iowa Board of Railroad Commissioners, which has to do with the placing of lines outside of cities and towns. That, however, is more in the nature of location of lines and the use of the highways, but the cities and towns in Iowa regulate the utilities within their jurisdictions as to rates.

I say without exception, because the Iowa Union Electric Company is subject to the Illinois Commerce Commission.

7084 Q. Do the cities and towns in Iowa also regulate service by the utility? A. They do, to a certain extent. Any questions of dependability of service, the installation of wires and underground conduits—all such matters are regulated by the City Council.

—3,011—

Q. Can you give us some idea of the staff of the Missouri Public Service Commission? A. The Missouri Public Service Commission consists of five Commissioners, a Secretary, a
7085 Chief Engineer, a Chief Accountant, a Chief Rate Expert, General Counsel, and a substantially large staff of engineers, accountants, auditors, and other employees. The total personnel of the Missouri Commission is about 134.

Q. What is the organization of the Illinois Commerce Commission? A. The Illinois Commerce Commission also has five Commissioners, although the office of one Commissioner is vacant at the present time. They have a Commission Secretary, who has two assistant secretaries; they have a Chief Accountant, Chief Engineer, and a similarly large staff of accountants, engineers, experts, and other employees.
7086 It was organized in its present form around 1914, and, including the Commissioners, I believe its personnel runs around 164 or 165.

Q. Are the companies in the Union Group subject to regulation as to their rates? A. They are. The companies in the Union Group have been in about 65 different rate proceedings before the Commission. The practice on these rate matters in the State of Missouri has never resulted in any litigation over the results of the Commission's findings.

—3,012—

However, the companies have not been ordered to reduce rates a single time in Missouri. Many reductions in rates come purely as a result of informal discussions with the Commission and its staff, or during negotiations during the pendency of a rate proceeding.

It is interesting in this connection to take up, as an example, the case where the company had made a reduction of something over $700,000 a year. The City of St. Louis entered its appearance before the Commission and contended that the company hadn't made a large enough reduction. So 7088
a valuation case started which lasted over quite a number of years.

Finally, in 1937, the Commission completed its case and fixed a valuation or a rate base for the Union Electric Company of Missouri's properties, of $125,000,000.

During the time that the proceeding was going on, the company had made substantial rate reductions in the interim in an amount more than the city had asked for in the first place. So that the case resulted in no order on rates, and didn't take up the question of a fair rate of return.

The city agreed that the company was not earning an 7089
excessive rate of return.

The Examiner: Have you the date on which that proceeding started?

The Witness: I believe I have, sir.

—3,013—

In February, 1928, at the invitation of the Commission, representatives of the Company and of the City started conferences with a view to obtaining lower rates, and as a result of those conferences, the

7090 *Colloquy*

rates were reduced on May 7, 1928, to the extent of $706,467 per annum, and they were promptly approved by the Commission, effective June 1, 1928.

That actually was the largest single rate reduction up to that time.

The City claimed that there should be an additional reduction of $700,000 a year, and they filed a request in that year that the Commission audit the company's records and require the company to show
7091 cause why a further reduction should not be made.

In July of that year the Commission ordered the accountants to audit the books of the company, and they started in with that audit in August. That audit lasted until September, 1930, when it was completed. While that was in progress, a further reduction of some $16,500 was made.

Between October, 1930, and March, 1931, there were hearings held, and following those hearings, on April 27, 1931, there was a further rate reduction of $375,000 a year. No decision had come down at all
7092 up to that time.

Then in May of 1931, the Commission issued an order directing its engineering department to make an inventory and appraisal of the properties. You see, the previous order had just been an order for an

audit. These cases were all consolidated. The inventory and appraisal commenced in June of 1931, and was prepared in great detail, and was finally filed in March of 1936.

The accountants began new audits to bring their previous ones up to date, and their report was filed in April of 1936.

During that five-year period the appraisal and audits were in progress, the companies involved, that is, the Union Electric Company of Missouri and two small subsidiaries, filed ten revisions in their rates, resulting in rate reductions approximating in the aggregate $1,785,000 a year.

An interesting factor in connection with the hear- 7094
ings on that was that all of the direct testimony of the witnesses on both sides, both for the company and whatever the city wanted to put in, and for the Commission, was reduced to writing before the hearing. I am not sure, but I think that is the first time that that was done in Missouri. At the hearing, counsel were limited to cross-examination of this direct testimony, which, of course, shortened the hearing tremendously. I believe that hearing actually lasted only ten days, and the final result of the Commission's order was to find the fair value of the properties at 7095
December 31, 1935, to be $125,000,000 for the Union Electric Company of Missouri; $850,000 for the Cupples Station Light, Heat & Power Company; and $32,500 for St. Charles Electric Light & Power Company.

—3,015—

At the same time, the Commission prescribed the depreciation allowance to be set up each year as $2,012,000 on the electric properties, plus 3 per cent. on net additions since April 30, 1935; and $73,000 a

7096 *John A. Woodbridge—By Respondents—Direct*

year on the steam properties, plus 2 per cent. on steam additions.

Mr. Browning: Does that answer your question, Mr. Examiner?

The Examiner: I think so. As I summarize what the witness has said, there were some preliminary negotiations and an order for the preliminary examination of the books; then in 1932 an order was entered calling for appraisals; and then the final action

7097 of the Commission was in 1937?

The Witness: That is right.

The Examiner: All right, that answers my question.

Mr. Browning: I would like to have marked for identification as Respondents' Exhibit 56, a table entitled, "Union Electric Company of Missouri—Rate Reductions from 1918 to 1940", which covers two sheets, and to which is attached a third sheet entitled,

7098 "Subsidiaries of Union Electric Company of Missouri—Rate Reductions from 1928 to 1940".

The Examiner: The table will be so marked.

(The document referred to was marked "Respondents' Exhibit No. 56 for identification".)

By Mr. Browning:

Q. Mr. Woodbridge, was this material compiled under your

direction? A. It was.

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Q. And was it taken from the books and records of the several companies? A. Yes.

Mr. Browning: I offer it in evidence as Respondents' Exhibit 56.

Mr. Odell: No objection.

The Examiner: Very well, the table is now admitted in evidence under the number assigned.

(Respondents' Exhibit No. 56 was received in evidence.)

7100

Mr. Browning: I think that the table speaks for itself, Mr. Examiner, so that no particular examination is necessary.

The Witness: I would like to point out in connection with the table that since 1919, there were 51 different voluntary rate reductions on the part of the Missouri companies that aggregated $5,300,000; and that of the subsidiaries in Illinois, the rate reductions since 1928 comprise 31 voluntary reductions, amounting to more than $700,000.

I believe that is the subsidiaries both in Illinois, 7101
Missouri, and Iowa.

The Illinois practice on these rates is quite similar to Missouri practice now. Many times there are negotiations with the Commission so that no actual rate proceeding takes place at all. We have had a

few such instances this year.

In Alton and East St. Louis, there were rate reductions in the early part of this year, following conferences with the Commission's staff, and just

the early part of this month there was a further rate reduction in some small territory north of Alton. Hartford, Illinois, was one of the places that has been reduced just within the last month.

y Mr. Browning:

Q. You have testified that Union Electric Company of issouri has never been ordered to reduce its rates? A. That right.

Q. Has any subsidiary of Union Electric Company of issouri been ordered to reduce its rates since it became a rt of the North American system? A. No, there has not en a single case of that. There were one or two cases ior to the time of the companies becoming a part of the stem, but not since.

Q. Have the companies ever had any litigation over the gulatory powers of the Missouri Public Service Commis-on? A. I would say no. There have only been four cases here orders of the Commission have been appealed to the urts, and those involved, in one case the question of a fee yable to the Commission on a bond issue on refunding. e Missouri Commission collects a fee on the issue of bonds, t that doesn't apply to a refunding issue. In that case the

mmission claimed that since the securities which were re-ded had been issued prior to the Commission coming into stence, that is, prior to 1913, they should collect a fee the refunding issue. I have forgotten the amount of fee olved, but that case was carried to the courts, and the rts decided it in favor of the company.

Of the other cases, one involved the right to acquire stock of another utility; another involved the question of the duty of the company to service a customer suspected of diverting current; and the fourth case involved some question regarding construction of line extensions.

Q. And those four cases are the only cases of litigation in the 27 years since the Missouri Commission started? A. That is correct.

Q. Now as to cases before the Commission itself, could you give us some data on cases before the Missouri Commission 7106 in which companies of the Union Group have been involved? A. These cover a very broad range. The total number of cases in which the Union Electric Company of Missouri and its Missouri subsidiaries were involved, have amounted to 232 over this period.

There were 60 rate cases; 3 valuation cases; 5 cases in connection with construction of property alone; 13 cases involving construction of property and approval of franchises; 4 cases involving solely the question of approval of franchises; 26 cases involving the acquisition and sale of —3,019— 7107 properties; 10 cases concerning the acquisition of securities; 34 on the issue of securities; 5 on reorganizations; 7 on standards of service; 31 on the question of service to all applicants generally; and 8 miscellaneous.

Included in the 232 cases were 26 cases in which the St. Louis County Gas Company, which is not a subsidiary of the Union Company, was involved. Five of those were rate cases, one a valuation case, three concerning approval of franchises, 13 on issue of securities, 3 on standards of service, and one miscellaneous.

7108

Q. When you say "cases", that refers to proceedings before the Commission, I take it? A. That refers to formal docketed proceedings

Q. It does not indicate any disagreement between the companies and the Commission necessarily? A. Not necessarily.

Q. Now will you give us the same data with regard to Illinois? A. In Illinois there have been a total of 465 cases: 45 on rates; 90 on contracts with other utilities; 1 on valua-

7109 tion; 53 on construction of properties; 12 on the acquisition and sale of properties; 59 on the sale of property alone; 58 on the issue of securities; 1 on reorganizations; 28 on standards of service; 10 on service to all applicants; 31 on aban-

donment of service—that is mostly in connection with railways; 3 on examination of accounts; 8 on financial policies; 10 on contracts with affiliated interests; 8 on records outside of the State; 23 on grade crossings; 10 on crossing protection; and 15 miscellaneous.

Q. Has any company in the Union Group ever appealed

7110 to the court from any order of the Illinois Commerce Commission since it first commenced functioning? A. Not since it became a part of the system.

Q. Do the Missouri and Illinois Commissions exercise jurisdiction and supervision over the accounts and records of the several companies? A. Yes. In Missouri the companies have complied with the accounting regulations of the Missouri Commission for approximately 25 years; and in Illinois, I think for about 21 years.

The Commissions both have Uniform Systems of Accounts now, which, of course, tie in very closely with the

Uniform System prescribed by the Federal Power Commission.

Q. Do the Missouri and Illinois Commissions exercise jurisdiction over the property and franchises of the companies? A. Yes, they do. As was indicated in the data with regard to the type of cases, we have had quite a number of cases in that regard.

In order to start construction of a plant or to enter any

—3,021—

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new section of territory where the companies haven't operated before, we have to get the approval of the Commission.

Q. This is the Missouri Commission you are now speaking of? A. Yes. As a matter of fact, it applies to both Commissions.

For example, there was a case in Missouri where the Union Electric Company of Missouri requested authority to construct a transmission line to a State park. That was about the most recent case in Missouri where we had to get the Commission's approval to extend the transmission line.

In 1929, there was perhaps the largest case in which the 7113
Union Electric Company of Missouri was involved on this type of question. That was when they were constructing the Osage hydro-electric project, down at the Lake of the Ozarks, and in that connection the company had to acquire a certificate of convenience and necessity to operate the project and acquire the rights and properties of the company that had commenced the construction.

Q. Is Commission authority required to exercise franchise rights? A. Yes. For some time, even though you get a franchise from a local community in Missouri, that fran-

7114 chise is subject to the approval of the Commission, and you have to get their approval before you can operate.

—3,022—

A recent case of that kind was where the company requested authority to start construction in the village of Moselle, Missouri. It had already acquired a franchise ordinance from the city, but still we had to go to the Commission before we could commence operations.

7115 Now a utility company in Missouri must submit all copies of new franchises, even though they merely involve renewal of franchises previously obtained.

The Missouri Commission, in connection with these extensions, sets up, of course, the standards of construction, requires that the standards set up by the United States Bureau of Standards and the general orders of the Commission be complied with, so that the public will not be endangered, and there will be no interference with lines of other companies.

Q. You say that the same situation obtains in Illinois?

7116 A. Yes. The most recent case of that happened this year. It was decided that we would build an addition to the generating capacity at the Venice Site on the East side of the Mississippi River over in Illinois.

I had some question myself as to whether or not the approval of the Commission was actually required in that case, because it might have been considered mere addition to an existing plant. However, the plans called for the actual construction of a separated plant on the same piece of property. So we went to the Commission and asked their author-

 7117

ity to build that plant, and hearings were held on that, and

—3,023—

the authority granted.

Q. Now in connection with those hearings, did the Illinois Commission receive testimony regarding the necessity of the plant, the needs for additional capacity? A. Oh, yes. The chief engineer in charge of the power plants, Mr. Tenney, was the principal witness in that case, and testimony in that connection was put in.

7118

Q. Do the companies secure Commission authorization for the acquisition or sale of property? A. Yes. Before you can sell any property used or useful in public service, you have to get the approval of the Missouri Commission. Usually that would involve the sale by one utility to another, and consequently you would have both companies joining in the application, one to ask approval for the sale, and the other to ask approval for the acquisition. A recent example of that was in 1937. The Mississippi River Power Company, which owns the hydro-electric dam up in the Mississippi River near Keokuk, had a subsidiary, the Missouri Transmission Company, which owned the transmission lines in Missouri, which connected the operations up there with operations in Missouri. We wished to eliminate that situation, and in order to transfer the assets of the subsidiary to the Mississippi River Power Company, both companies had to apply to the Missouri Commission for approval. This not only applies to physical properties, but in order

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—3,024—

to acquire securities of another public utility company, the approval of the Commission must be obtained.

7120 *John A. Woodbridge—By Respondents—Direct*

Also, in 1937, the Union Electric Company of Missouri was acquiring additional stock—not additional stock but stock of the Keokuk Electric Company, which was a subsidiary prior to that time, and that case had to go before the Missouri Commission for authority.

Commission approval is also necessary in case of a company other than a public utility acquiring 10 per cent. or more of the stock of a public utility. Whenever the Union Electric Company in the past has issued and sold common
7121 stock, or our affiliated company, the St. Louis County Gas Company, has issued and sold common stock to the North American Company, the North American Company has had to apply to the Missouri Commission to obtain approval for the acquisition.

The most recent case of that was in May of this year, when the St. Louis County Gas Company sought approval to issue $1,100,000 of additional common stock which was to be bought by the North American Company. Informal conversations were had with the Commission before application was filed, and that was approved, as well as the appli-
7122 cation of the North American Company to acquire the additional stock. That case, of course, was also subject to the jurisdiction of the Securities and Exchange Commission.

Q. What is the situation in Illinois? A. Illinois has

—3,025—

very extensive jurisdiction over the acquisition and sale of property. It goes into more detail, even, than the Missouri Commission.

For example, in 1939, last year, the St. Louis & Belleville Electric Railway Company, a subsidiary, had to go to

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the Illinois Commission for authority to purchase some equipment from the Union Electric Company of Illinois. That equipment, as I recall, consisted of some rotary converters which had previously been leased to the St. Louis & Belleville Railway Company, which are used in the operation of its electric freight railway line, and Commission approval had to be obtained by both parties on that transaction.

I mentioned before the acquisition by the Union Company of the Keokuk Electric stock going before the Missouri Commission. The approval of the Illinois Commission was 7124
also necessary on that case, because the Keokuk Electric Company, which was an Illinois corporation, was acquiring all of the property and franchises of the Dallas City Light Company, which was an Illinois company, and Fort Madison Electric Company, which was an Iowa company, and all the details of that transaction had to go before the Illinois Commission.

The Commission has jurisdiction over the assignment, lease, mortgage, sale or encumbrance to public utility properties.

Again, the St. Louis & Belleville Electric Railway Company merely desired to sell a small piece of property early 7125
this year, and it had to go to the Commission for approval

to do that.

Q. May the companies issue securities without the approval of the Missouri or Illinois Commissions? A. They can issue short-term notes. The requirement in Missouri is one year or less, and I think it is the same in Illinois. But for anything else, stocks, bonds or other evidences of indebted-

7126 *John A. Woodbridge—By Respondents—Direct*

ness, the companies have to go to the Commissions for authority, and have done so on quite a number of occasions.

In Missouri, from time to time, when the company has not had an issue for some time, or when the Commission basis for securities has been on a refunding matter, the companies have made the practice of filing an application with the Commission setting forth all their expenditures for the last five years, so that those expenditures will be before the Commission and won't be lost to the company in case they
7127 should wish to come along later and ask for specific approval of securities.

Q. The Missouri companies are permitted to issue securities only against property additions or to refund securities previously outstanding? A. In substance that is correct. Those issues can be either prospective or based on past transactions. If you are asking authority to issue securities for the purpose of acquisition of properties, then, of course, you have to go into considerable detail and support the applica-

tion with a description of the properties you are going to
7128 acquire or construct. You just can't issue securities for the acquisition or construction of unnamed properties. When the properties have already been constructed, then you can issue securities to reimburse the treasury for those expenditures.

The same thing is true of refunding.

Q. Does the Commission exercise authority over the creation of liens on property? A. Yes, it does. No lien can be created on the properties without the consent of the Commission. I shouldn't say "no lien", as that is probably too broad,

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because, of course, you can have mechanic's liens and things like that, which are more or less involuntary.

Q. Or if you don't pay your taxes? A. Or if you don't pay your taxes, yes. We try to pay our taxes unless they are too exorbitant.

In 1937, for example, the Union Electric Company of Missouri obtained the Missouri Commission's approval for the creation of its present mortgage, the mortgage of July 1, 1937, under which the first mortgage and collateral trust bonds are now outstanding.

7130

The only case previous to that, I think, in Missouri, was in 1924, when the general mortgage was issued, and that served as the financing vehicle from 1924 up to 1937.

—3,028—

Q. Does the Missouri Commission exercise jurisdiction over reorganization plans? A. Yes. There have been two reorganizations of the Union Electric Company itself which have been before the Commission, one in 1917 and one in 1922, and the latter one involved the filing of four separate applications, and the entire transaction was subject to the approval of the Commission.

7131

Q. Turning now to the Illinois Commission, does it exercise authority over the issuance of securities? A. It does, except, as I said before, for the short-term notes, with a maturity of not more than 12 months.

The largest issue which has been involved before the Illinois Commission was in May of 1937, where authority was requested for the issue of $22,000,000 of 3¾ per cent. bonds of the Union Electric Company of Illinois.

7132 *John A. Woodbridge—By Respondents—Direct*

This Commission also has jurisdiction over the creation of liens, and in connection with that bond issue which I just mentioned, specific approval to the creation of the mortgage and the creation of the lien on the properties was also required.

Q. Does the Commission exercise jurisdiction over mergers of public utilities? A. Yes. The $22,000,000 issue was made by the surviving company in a merger which took place at that time. The company was the old East St. Louis Light
7133 & Power Company, which survived the merger as Union Elec-

—3,029—

tric Company of Illinois, and all the details of that merger were approved by the Illinois Commerce Commission.

I might say in that connection that each of the constituent companies, other than the East St. Louis Light & Power Company, in connection with the merger, had to obtain authority from the Illinois Commission to issue additional stock. These companies weren't actually issuing the stock themselves, but it was desired to have an $18,000,000 com-
7134 mon capital of the resulting company. That was larger than the combined capital of the constituent companies in the merger.

Q. Why was it larger? A. Well, it was just a fact that it was larger. Of course, the constituent companies had fairly substantial surplus. So in order to make up the difference between the aggregate capitalization of the constituent companies and the final capitalization, an amount of surplus was capitalized, but in order to issue stock against that, the constituent companies had to get authority to issue the

stock first, so as to comply with that Commission rule. It is a statutory rule.

Q. Does the Missouri Commission issue orders determining standards of service? A. Yes. The first orders in this connection were issued in 1915, fixing standards of service, regulating meter readings and billings, disconnection of service, and limitations on the amount of deposits that could

be obtained from customers as surety for their accounts, fixing the interest rate on such deposits. 7136

This order also covered voltage regulation and the operation of electric plants, accuracy of meters, and fixing periods of tests, and the maintenance of facilities to make such tests.

A few years ago, in 1938, the Commission ordered an investigation and hearing on billing practices of all utilities, and detailed statements of billing practices were submitted at that hearing, and as a result the Commission issued an order which required the utilities to show on their bills the necessary information to enable customers to understand how those bills were made up, so that the customer himself could check the bills. The charge for service had to be stated separately from any other charge, that is, charges for appliances or for sales taxes, and things of that character. 7137

Q. Does the Illinois Commission prescribe rules covering standards of service? A. Yes, they have very detailed rules.

In 1914, general orders were issued covering frequency and voltage regulation, billing requirements, meter and station records, fixing of periods of tests of meters, location of meters, and extension of lines, and various other detailed matters.

Q. Does the Commission have jurisdiction over the aban-

—3,031—

donment and discontinuance of utility service? A. The Commission does. We, of course, in our system have not had occasion to seek authority to abandon any electric or gas facilities. However, a number of applications have been made to the Illinois Commission from time to time for the abandonment of street railway passenger service. The street railway operations were finally totally abandoned in 1935.

7139 Q. Does the Missouri Commission exercise jurisdiction over the depreciation policies of the Missouri companies? A. Yes. As I was describing the valuation case involving the Union Electric Company of Missouri, I mentioned that the Commission in its order prescribed the annual rates of depreciation to be made by the company. They required the company to set aside each year $2,012,000 for depreciation of the electric properties then in existence, plus 3 per cent. on additions after April 30, 1935.

Q. Does the Illinois Commission exercise any jurisdiction over the financial policies of the Illinois companies? A. It

7140 does. They have jurisdiction over dividend payments which might impair capital, and the use of company resources in any business not directly connected with the business of a public utility.

In one case, for instance, the Union Electric Company of Illinois had to get permission from the Illinois Commerce

—3,032—

Commission to advance moneys to its subsidiary, Union Colliery Company.

Q. The Illinois Commission has jurisdiction over depreciation policies of the Illinois companies? A. Yes, it does.

As a matter of fact, however, they haven't issued any orders with respect to depreciation policies of any of the subsidiaries since becoming part of the system.

Q. Does the Illinois Commission exercise jurisdiction over contracts entered into by the companies with affiliated interests? A. Since about 1933, I think, the jurisdiction of the Illinois Commission has been extended to cover such contracts, and embraces almost every type of contract you could think of between affiliated interests.

For example, in November, 1937, in order to maintain 7142
arrangements between several of the companies covering the transfer between one company and another of stock supplies, and surplus materials, Commission approval had to be obtained.

Q. Do the companies submit annual reports to the Commissions? A. In both cases, both Missouri and Illinois; these are detailed, comprehensive reports. They have been filed with the Missouri Commission since 1914. The first report contained 51 schedules, and has been revised from time to time.

In 1936, it comprised 63 schedules. The form that is now 7143
—3,033—
in use, which I believe is quite similar to the Federal Power Commission report—it may be almost identical, with perhaps some additional information required—has about 158 schedules. These schedules call for a company history, information concerning the officers, directors and stockholders, and controlled and controlling companies; and a summary of important changes during the year; balance sheet, income and earned surplus statement, showing the make-up and

detail of transactions during the year, of importance; details on taxes; regulatory commission expenses; officers' salaries, and service and management and engineering contracts; details of plant and depreciation reserve accounts; details on revenues and operating expenses, which covers considerable data on contracts for purchase and sale of energy to other public utilities; and construction overhead; also statistics on generating plant, transmission lines, et cetera, and their operation; and detailed analysis of sales, by rate schedules.

In Illinois the reports are equally comprehensive. The first report prescribed was beginning with the year ended June 30, 1914, and contained 56 schedules. That has grown from time to time, and the present form of report contains about 170 schedules.

The type of information called for by that report is substantially similar to that I have outlined in the case of Missouri.

—3,034—

In Illinois, the companies now make monthly reports, which is largely statistical information, and covers balance sheets and earnings statements, which are broken down by classes of service, and also show details of kilowatt hour sales and output, or the sales by various classes of service.

Q. Do the Missouri and Illinois Commissions have any requirements with regard to maintenance of records in the State? A. Yes, sir. The Missouri Commission requires the companies to maintain an office in the State at which all records and accounts shall be kept, and no records or accounts can be removed except on conditions which the Commission might prescribe.

The same thing is true of Illinois. Of course the general office of the system is in St. Louis, so that all our books and records, all the general books and records, on Missouri properties, are kept there.

The approval of the Illinois Commission was obtained for keeping the books and records of the Illinois companies in St. Louis. It was considered a much more economical thing to have them all in one place, and the Commission approved that.

Q. Do the companies cooperate with the Missouri and Illi- 7148
nois Commissions in the settlement of customers' inquiries? A. Yes, every now and then, instead of a customer coming to us directly with his troubles, he takes them up with the

—3,035—

Commission, and the Commission will write a letter down to us outlining the subject of the customer's letter. It usually sends along a direct copy of the letter. We investigate the matter promptly and make a full explanation to the Commission, and that is usually the end of it.

Q. To what do those letters principally refer? A. Mostly to questions of rural and suburban line extensions. There 7149
are other types of problems which come up from the customers, but the majority of them, I would say, would be on that subject. You see, the utility has to have very definite rules in connection with the sharing of the cost of these line extensions, and many times the customer can't quite understand those rules, so he takes it up with the Commission. The rules are filed with the Commission, and practically have the force of law, so that when we explain to the Commission that we have not deviated from their rules, that usually ends the matter.

Q. Both Commissions have rules prohibiting you from discriminating between customers? A. Yes, one of the principal foundations, I think, of State regulation, is to eliminate unfair discrimination.

Q. So that if a particular customer comes in with a particular request, is it merely a question of whether you would be glad to comply with the request if you were free to do so?

—3,036—

A. No, it certainly is not. There are a number of cases from
7151 time to time where you would like to be able to do something for somebody that comes in, but you just simply can't do it. You have to abide by your filed regulations which have been carefully worked out.

The Examiner: Let us have a short recess.

(Whereupon, a short recess was taken, after which the hearing was resumed.)

—3,037—

By Mr. Browning:

7152 Q. Mr. Woodbridge, are these annual reports to the Missouri and Illinois Commission, which you have described, open to public inspection? A. Yes, they are. The monthly reports filed with Illinois are generally compiled into reports by the Commission embracing more important utilities in the State and those are given circulation.

The annual reports are on file at the Commission's offices, open for public inspection.

Q. Are members of the Missouri Commission's staff frequently engaged in work in the offices or on the property of

7153

your Missouri companies? A. Very frequently. From 1928, with the exception of the year 1937, we have had accountants or engineers from the Missouri Commission in work at the offices or on the properties. That audit of the books of Union Electric Company of Missouri and two of its subsidiaries which we have previously referred to involved four to eight accountants in the offices and extended from September, 1928, to October, 1930.

The appraisal, beginning in July, '31, and extending to July, '36, and the second audit, were made by a force of engineers and accountants which ranged from fourteen to fifty-six individuals.

7154

The amount charged to Union Electric Company by the Commission for the cost of this work, totaled four hundred

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sixty-three thousand odd dollars.

In 1938, late in the year, and working right up into April of this year, there were a group of accountants and engineers which ranged from seven to twenty individuals preparing an appraisal of the properties and audit of the books of the St. Louis County Gas Company.

7155

That work has cost the Gas Company some $47,000.00.

Q. Have members of the staff of the Illinois Commission gone to your properties or offices? A. Not to the same extent as in Missouri. From November, 1939, until June of this year, there have been two accountants of the Illinois Commerce Commission making audits of the original cost studies of Mississippi River Power Company and Iowa Union Electric Company.

Charges for that work amounted to about $4,000.00 in the case of Mississippi River Power Company and a little over $1,000.00 in the case of the Iowa Union Company.

Q. Could you give us any figures on the cost to the several companies of the regulation by the Missouri and Illinois Commissions? A. That is pretty difficult to arrive at. We have attempted to make an estimate, but it is really little more than an estimate.

In Missouri the current normal work, we figure, amounts
7157 to somewhere between seventeen and eighteen thousand dol-

lars a year for the Union Electric Company and two small subsidiaries. Most of that, of course, would be Union Electric Company of Missouri.

In the case of Illinois, somewhere between fifty-five hundred and six thousand dollars. The appraisal and audit expenses, of course, amount to much more.

The annual provisions for amortization of appraisal and audit expenses on the Missouri companies, which include the St. Louis County Gas Company, amounts to $106,563.00
7158 a year.

Q. That is your annual amortization of the total cost of the appraisal and audit which was made? A. That is right.

Q. Do you have the figure on what was the total cost of that appraisal and audit? A. Union Electric Company of Missouri—it was $1,121,000 in round figures.

That must have included some previous unamortized expenses in addition to the more recent case.. Cupples Station Company, the total amount was approximately

$6,300.00, a nominal amount on the St. Charles Company and the total on the Gas Company has amounted to a little over $123,700.00.

Mr. Browning: I would like to have marked for identification as Respondents' Exhibit 57, a series of four charts, the first sheet being entitled, "Union Electric Company of Missouri," the second sheet, "Union

Electric Company of Illinois," the third sheet, "Mississippi River Power Company," and the fourth sheet, "Iowa Union Electric Company." 7160

By Mr. Browning:

Q. Were these charts compiled from the books and records of the company under your direction? A. They were.

(The documents referred to were marked for identification as Respondents' Exhibit No. 57.)

Mr. Browning: I offer the charts as Respondents' Exhibit 57. 7161

The Examiner: All right, the charts are received as one exhibit, Respondents' Exhibit 57.

(The documents referred to were received in evidence as Respondents' Exhibit No. 57.)

(Discussion off the record.)

Mr. Browning: I would like to have marked as Respondents' Exhibit 58 for identification, a table of security issues consisting of nine sheets, the first sheet being headed, "Union Electric Company of Missouri."

7162 *John A. Woodbridge—By Respondents—Direct*

(The document referred to was marked for identification as Respondents' Exhibit No. 58.)

By Mr. Browning:

Q. Was this exhibit prepared under your direction from the information taken from the books and records of the company, Mr. Woodbridge? A. Yes.

—3,041—

7163 Mr. Browning: I offer it in evidence as Respondents' Exhibit 58.

Mr. Odell: No objection.

The Examiner: All right, it is so received under that number.

(The document referred to was received in evidence as Respondents' Exhibit No. 58.)

Mr. Browning: I would like to have marked as Respondents' Exhibit 59 for identification a series of four tables, consisting of four sheets. The first sheet, which is entitled "Union Electric Company of Missouri," shows earnings available for common dividends and investment, and investment requirements. The second sheet shows gross income, interest on funded debt and times interest earned.

7164

The third sheet shows property and plant account at the beginning of the year, operating revenues and property and plant per dollar of revenue.

The fourth sheet shows, for Union Electric Company of Missouri and Subsidiaries, shows property and plant account at beginning of year, operating revenues, property and plant per dollar of revenue.

(The document referred to was marked for identification as Respondents' Exhibit No. 59.)

—3,042—

By Mr. Browning:

Q. Was this exhibit prepared under your direction, Mr. Woodbridge, and the material contained therein obtained from the books and records of the several companies? A. Yes.

Mr. Browning: I offer it in evidence as Exhibit 59.

7166

The Examiner: Is the information shown on this exhibit and the previous one correct according to the best of your knowledge and information and belief?

The Witness: They are correctly taken from the books according to the best of my knowledge, information and belief.

The Examiner: All right. These four typewritten tabulations just described are admitted as Respondents' Exhibit No. 59.

(The document referred to was received in evidence as Respondents' Exhibit No. 59.) 7167

By Mr. Browning:

Q. Will you turn to Respondents' Exhibit 57, Mr. Woodbridge? What does the first sheet of this exhibit show? A. This is an historical corporate chart which traces progress from the earliest properties making up a part of the Union Electric Company of Missouri properties, down through to the present company.

You will note that the earliest company, as shown by this chart, was the Guernsey & Scudder Electric Light Company,

7168 which was organized in 1885, doing business in the City of St. Louis, Missouri.

—3,043—

The present company, Union Electric Company of Missouri, was incorporated in November of 1922. We have often referred to this company as Union No. 4 because it was the fourth company in the series which went by the name of Union Electric Company although the others were Union Electric Light & Power Company, and the present company
7169 was formerly named Union Electric Light & Power Company, so we have sometimes referred to it as Union No. 4.

The first Union company which was organized in 1902, was the outgrowth of five companies. On about the fourth column from the left of the chart, including the single Union Electric Company of Missouri as the first column, you will note in the middle of this fourth column, Union Electric Light & Power Company No. 1, organized in 1902, and that was made up of the combination of the five predecessor companies that branch out from that to the right.

The second Union Electric Company resulted from the
7170 taking over of the Missouri-Edison Electric Company, which is a combination of twelve predecessor companies. That will show up in the third column from the left and as a predecessor of the Missouri-Edison Electric Company was this first company I mentioned before, the Guernsey & Scudder Electric Company.

If you look at the chart prior to the organization of Union Electric Company No. 2, there are a great many predecessor companies and also a great many doing business in the City

—3,044—

of St. Louis from time to time.

John A. Woodbridge—By Respondents—Direct 7171

Q. Can you tell us why that situation existed? A. That resulted from the early policy of the City of St. Louis. In 1884, they adopted a franchise ordinance No. 12,723—it is quite a famous ordinance to us out there—which was an open offer to any individual, firm or corporation that wanted to come into an electric business.

If they came in and qualified with the provisions of the ordinance and made an application to install their wires and conduits, then they could get a franchise. They had to accept the terms of the ordinance and post a $20,000.00 bond and 7172
agree to pay the City a proportion of their gross receipts each year. That was two and a half per cent. up to 1890 and 5 per cent. thereafter.

Those 5 per cent. payments that Union Electric Company of Missouri now makes the City of St. Louis, are over $600,000.00 a year at the present time.

The Union Company is a successor to thirteen of the franchises granted under this original ordinance, and the remaining franchises have just gone out of existence.

There were a total of twenty-two individual firms and corporations that qualified under that original ordinance. 7173
The rights under that ordinance are not limited as to duration.

Then there came an intervening period where the policy of the City changed somewhat and they passed an ordinance

which prevented anyone, further, from obtaining a franchise without special approval from the Municipal Assembly, but in 1896 they passed a subsequent ordinance No. 18,680, known as the Keyes Ordinance, which established an under-

7174 *John A. Woodbridge—By Respondents—Direct*

ground district in the downtown section of St. Louis and again made an offer for companies to come in and accept the terms of the ordinance and obtain a franchise.

There were eight electric companies that qualified under this ordinance. Union Electric was the successor of six of these franchises and Cupples Station Light, Heat & Power Company, a subsidiary, held a franchise under this ordinance.

However, the terms of this later ordinance provided that
7175 the rights granted thereunder should expire on April 15, 1940, so that our rights, now, practically stem back to the original ordinance adopted in 1884.

At the present time with the expiration of the Keyes Ordinance franchises in 1940, the Union Electric Company of Missouri is the only company that now holds franchises under the original ordinance.

(Discussion off the record.)

By Mr. Browning:

7176 Q. When did the company extend its operations beyond the City of St. Louis? A. That followed the formation of the third Union Electric Company in January, 1917, and

—3,046—

as shown by the chart, again, the third Union Electric Company is the middle of the second column from the left and that acquired the ten companies in the third column.

Many of those, you will notice, operate in counties outside of the City of St. Louis.

Q. At the time of its formation, in 1922, did the present Union Electric Company of Missouri have any subsidiaries?

A. It had two subsidiaries at that time—the Union Colliery Company, which operated a coal mine at Dowell; the National Subway Company of Missouri, which owned an underground conduit system in downtown St. Louis.

That was acquired in 1926. Union Colliery Company had been incorporated in July of 1917 to develop and operate a coal mine which could be used as a source of supply for the operation of the company's steam power plant and give an assurance that it would at all times have such a source of supply. 7178

In 1927, investment in the Union Colliery Company was transferred to Union Electric Company of Illinois. That company now consumes the major portion of the coal produced at the mine. That transfer was approved by the Securities and Exchange Commission and the Illinois Commerce Commission.

Subsequently, the properties of the National Subway Company were taken over and that company was dissolved in 1927.

Q. Then, if I understand you correctly, Union Electric 7179

Company of Missouri has acquired control of all its present subsidiaries except Union Colliery Company since 1922? A. That is right.

Q. Did it also acquire control of other companies after 1922? A. Yes. In 1923, it acquired control of Cupples Station Light, Heat & Power Company, which I have mentioned several times and the St. Charles Electric Light & Power Company, which does a small business out in St. Charles, Missouri. The same year, the Power Operating Company

7180 *John A. Woodbridge—By Respondents—Direct*

was organized to operate the plants of Union Electric Light & Power Company of Illinois.

Q. I don't think we need to give any more detail on those acquisitions because they are shown on the charts. A. They are shown on one chart or another. They won't all appear on the Union Electric Company of Missouri chart.

Q. Of the thirty-two subsidiaries which either existed in 1922 or were acquired subsequent to that time, how many exist today? A. There are only twelve of those subsidiaries
7181 which exist today and a number of these are in the process of elimination.

Q. We will go into that a little later. A. I might say, in this connection, that the chart shows a total of eighty-two predecessor companies of the system as today constituted. That, however, doesn't really count all the companies

that have one time or another been in the system, because there were a number of transportation companies on the east side, which were in and finally were all eliminated somewhere around 1935. Not all of them; some of them.

7182 Q. Well, now, to recapitulate the present corporate situation, how many companies are there in the Union Electric System? A. The thirteen companies in the Union Electric System, in addition to the St. Louis County Gas Company which we consider in the Union Electric Group, but is a direct subsidiary of the North American Company—of these thirteen companies there are seven electric companies—the Union Electric Company of Missouri, Union Electric Company of Illinois, Iowa Union Electric Company, Mississippi River Power Company, Cupples Station Light, Heat & Power

Company, St. Charles Electric Light & Power Company and Lakeside Light & Power Company.

Of the seven, two companies—St. Charles Company and the Lakeside Company—now have applications before the regulatory authorities for approval of the transfer of their properties to Union Electric Company of Missouri.

The hearings before the Missouri Commission on both of these cases were held just a week ago today and we expect the orders on these cases momentarily and hope the transfers can be made effective as of the end of this month. 7184

On one of those cases there is an application pending before the Securities and Exchange Commission. I believe that all that is necessary in that connection is the receipt of the

—3,049—

Missouri Public Service Commission order.

The other case, the St. Charles case, was so small that it falls within the exemptions prescribed by this Commission's rules. It is also hoped that the properties of Cupples Station Company can be taken over very shortly.

There is a complicated old agreement there which dates back to 1912, between the Cupples Company and Washington University, which expires in February of next year. 7185

A great deal of work is being done on that now to try to work out with the University what will be done when that contract expires and as soon as that situation is solved, the Cupples Station Company will be dissolved.

Accordingly, when that is completed, we will have four electric companies instead of seven, one operating in Missouri, which is the Union Electric Company of Missouri; one in Illinois, Union Electric Company of Illinois, one in

Iowa, Iowa Union Electric Company, which also does a small business in Illinois on the east side of the Keokuk Dam; and Mississippi River Power Company which owns and operates the hydro-electric plant and dam up near Keokuk, Iowa.

That leaves six additional companies now in the Union group.

St. Louis and Belleville Electric Railway Company operates a short electric freight line between Belleville and East St. Louis.

This company carries a large portion of coal that is mined

by Union Colliery Company and supplied to Union Electric Company of Illinois for the operation of its steam power plants.

Union Colliery Company, the company I just mentioned, is the coal company which is owned directly by Union Electric Company of Illinois, the chief user of its coal.

Union Electric Land & Development Company, the principal assets of which consist of the large acreage of land surrounding the Lake of the Ozarks, where the Missouri hydro-electric project is situated. This land is being sold off from time to time as we find customers who like to have property down around this lake, which is largely a resort area.

St. Louis and Alton Railway Company, which I don't consider as an operating company at this time—it owns an electric railway line between East St. Louis and Alton which has been leased since 1930 to the Illinois Terminal Railroad System.

We worked out arrangements for the sale of this railway property to Illinois Terminal Railroad Company and the

transaction was approved some time ago by the Interstate Commerce Commission.

The application on that sale is still pending before the Illinois Commerce Commission. We hope to get the order pretty shortly now and as soon as that transaction is wound up, St. Louis and Alton Company will be dissolved.

Then, there are only two other subsidiaries of the Union Electric Company of Missouri—East St. Louis Railway Company and East St. Louis & Suburban Railway Company.

—3,051— 7190

These two companies are entirely inactive and in process of liquidation. They used to be a part of the transportation system on the east side which was finally abandoned in 1935, but, out of those operations, there resulted a certain amount of ordinary accident and damage litigation and a few of those cases are still pending.

Under the Illinois Law, you can't dissolve a company while it has litigation pending and that is the only thing that holds up dissolution of these two companies.

That completes the present system except for the St. Louis County Gas Company, which does the gas business in 7191 St. Louis County and is a direct subsidiary of North American Company.

Q. You have used the term "east side" several times. Will you state for the record what you mean by that? A. There is a territory on the east side of the Mississippi River in Illinois which is so much a part of the metropolitan area of St. Louis—it comprises the City of East St. Louis, and a number of surrounding villages and we very frequently just refer to it as the "east side," the City of St. Louis being the west side.

7192 *John A. Woodbridge—By Respondents—Direct*

Q. Has the Union Electric Company of Missouri or any of its three predecessors known as Union Electric Light & Power Company ever defaulted in the payment of any interest on principal on any indebtedness? A. Never.

3,052

Q. What is the dividend record of those companies? A. No dividends were paid prior to 1907. Up to that time, a surplus of practically over a million dollars had been accumulated and since that time dividends have been paid
7193 each year on the common stock and on preferred stock since its issuance.

Q. So that there has never been a default on the preferred stock dividend? A. Not of the Union Electric Company of Missouri.

Q. Can you give us some figures to indicate the growth of the Union Electric System? A. Well, the first Union Electric Company, the number one company, started off with a capitalization of around $6,700,000.00 of stock, and somewhat over a million and a half of bonds.

The present company has $65,500,000.00 of stock and
7194 $95,000,000.00 of bonds and notes.

The operating revenues for the year 1904 amounted to somewhat over $1,500,000.00 and the property and plant account at the beginning of the year was somewhat over $13,500,000.00. At the end of 1939, the operating revenues of the company, I believe, amounted to over $26,600,000.00. It shows an increase, I believe, of something well over 1,700 per cent., and the property and plant account—I believe this is on a consolidated basis—amounted to over $233,000,000.00

—3,053—

at the beginning of the year 1939.

(Discussion off the record.)

By Mr. Browning:

Q. Will you give us the present capital structure of the Union Electric Company of Missouri? A. On a corporate basis, it has $80,000,000.00 of bonds which amount to 45.1 per cent. of the total; $15,000,000.00 of 3 per cent. five-year notes, amounting to 8.5 per cent. of the total; $13,000,000.00 of preferred stock, 7.3 per cent. of the total; advances on open account from subsidiaries, roughly, $6,800,000.00, amounting 7196
to 3.8 per cent. of the total; common stock of $52,500,000.00, 29.6 per cent.: and surplus as of July 31, 1940, of roughly $10,200,000.00, amounting to 5.7 per cent., making a total of $177,500,000.00 in round figures.

The common stock equity exceeds 35 per cent., and since 1905, at which time the equity was the same, it has been approximately that figure right straight along.

It is interesting to note in this connection that since the organization of the present company in 1922, all of the common stock except 550,760 shares, which was issued in exchange for the common stock of the predecessor company, 7197
had been paid in cash by the parent company.

Q. By— A. (Interposing) North American Company. The bonds, after taking into account that 22,000,000 of

those bonds are really secured by 22,000,000 pledged bonds of Union Electric of Illinois, the bonds of Union Electric Company of Missouri are equal to about 45.7 per cent. of the property account.

Do you want that on a consolidated basis as well?

7198 *John A. Woodbridge—By Respondents—Direct*

Q. Yes. This is a consolidated basis for Union Electric Company of Missouri and its subsidiaries? A. And its subsidiaries. It does not include the St. Louis County Gas Company.

The $80,000,000.00 of bonds on a consolidated basis amounted to 39.1 per cent. of the total; $15,000,000.00 of notes to 7.3 per cent.; funded debt of subsidiaries, totaling $19,270,500.00, to 9.4 per cent.; preferred stock of the Union Electric Company of Missouri of $13,600,000.00 amounts to
7199 6.4 per cent. of the total; preferred stock of subsidiaries, $8,234,475.00, 4 per cent.; $52,500,000.00 of common stock amounts to 25.7 per cent.; the consolidated surplus, $16,386,000.00, 8 per cent.; and minority interest in capital and surplus of subsidiaries, $61,768.00, amounting to one-tenth of one per cent., making a total of $204,453,000.00.

The funded debt is equivalent to 48.1 per cent. of the consolidated property, and the equity of the North American Company in the assets of the system is 33.7 per cent. which is just slightly less than the North American Company's equity in the Union Electric Company of Missouri, itself.

7200 —3,055—

(Discussion off the record.)

By Mr. Browning:

Q. I believe you testified that all securities issued by Union Electric Company of Missouri since April 15, 1943, have been approved by the Missouri Public Service Commission. A. Yes. That means, of course, that all of the securities of the company that are now outstanding have had the approval of that commission.

Q. Have there been any write-ups in the property accounts of the company since the organization of the first Union Electric Company in 1902? A. I am not sure of 1902. There have been none since 1903, the date of the organization of the second Union Electric Company. At that time, there was a reduction in capitalization which more than offset an increase which was made in 1902 on the organization of the first Union Electric Company. Since that time, there have been no write-ups in the property account of the company or its investments against which any securities were issued nor 7202 in the property accounts of any subsidiaries since becoming part of the North American System.

Q. Turning to Union Electric Company of Illinois, the second sheet of the Respondents' Exhibit 57, shows the predecessors of that company? A. Yes. That shows sixteen predecessor companies. The present Union Electric Company of Illinois is the continuation of the East St. Louis Light &

Power Company which was incorporated in 1908 under the name of Consumers Light, Heat & Power Company.

This company was doing an electric utility business in 7203 East St. Louis, Illinois, and surrounding territory. In 1910 there was a merger of two other companies with East St. Louis Light & Power Company surviving, and in 1937, in connection with the large Union Electric financing of that year, four other companies were merged into East St. Louis Light & Power Company to form what is now known as Union Electric Company of Illinois.

I think that is pretty clearly shown on the chart.

The present capitalization of the Union Electric Company of Illinois consists of $22,000,000.00 of bonds, amounting to

7204 *John A. Woodbridge—By Respondents—Direct*

51.2 per cent. of the total; $18,000,000.00 of common stock, amounting to 41.9 per cent. of the total; capital surplus of $1,577,985.00, amounting to 3.7 per cent., and earned surplus as of July 31, 1940, of $1,378,970.00, amounting to 3.2 per cent., or a total of over $42,900,000.00.

This company has no securities outstanding with the public, and all of its bonds and stock are owned by the Union Electric Company of Missouri and are pledged under the Union Electric Company of Missouri mortgage.

7205 Q. The third sheet in Respondents' Exhibit 57 deals with Mississippi River Power Company; does it not? A. Yes, sir.

—3,057—

Q. It shows the predecessors of that company? A. Yes. I wish I were more thoroughly familiar with the initial history of this company because it is one of the most exciting stories in the utility business. The Keokuk Dam, I believe, was the first hydroelectric project in the country and it was quite a job to harness the waters of the Mississippi River there at that early date.

The company was organized in 1910 and acquired the pre-
7206 liminary development work and construction work of its four predecessors that had started the construction of the project, which was under an Act of Congress.

The North American Company acquired control of Mississippi River Power Company in October of 1925, and in the next year, the investment was transferred to Union Electric Company of Missouri.

I have previously mentioned the subsidiary of Mississippi River Power Company and Missouri Transmission Company, which was dissolved and the assets taken over in the last few years.

Q. What is the present capitalization of Mississippi River Power Company? A. This company has $15,753,500.00 of bonds, amounting to 32.4 per cent. of the total; $2,817,000.00 of debentures, amounting to 5.8 per cent.; $8,234,475.00 of preferred stock, 17 per cent.; common stock, $16,000,000.00, 32.9 per cent.; surplus, $5,768,584.00, 11.9 per cent., making a total of over $48,500,000..

—3,058—

The bonds and debentures have been reduced from their original amounts of $20,648,300.00 in the case of the bonds, 7208
and $3,000,000.00 in the case of the debentures, to the figures I have mentioned there, by operation of the sinking fund.

The Union Electric Company of Missouri, owns 99.7 per cent. of the common stock of the Mississippi River Power Company, which makes its equity 44.7 per cent. of the total capitalization.

Q. The bonds, debentures and preferred stock are held by the public? A. Yes.

Q. The fourth sheet of Respondents' Exhibit 57 shows the corporate predecessors of Iowa Union Electric Company? A. It does. 7209

That shows twelve predecessors. The Iowa Union Electric Company was originally Keokuk Electric Company organized in December, 1911.

Shortly after its incorporation, it acquired the properties shown in the last column of the chart. This company did not come into the North American System until 1925, in October, and was originally acquired by North American Company and transferred to Union Electric Company in 1926, through the transfer of the stock ownership of Central Mississippi Valley Electric properties.

7210 *John A. Woodbridge—By Respondents—Direct*

That was an intermediate holding company and was dissolved in December, 1937, so that Iowa Union is now a direct

—3,059—

subsidiary of Union Electric Company of Missouri.

Also, at that time, it acquired the properties of two other subsidiaries—Fort Madison Electric Company and Dallas City Light Company, which were dissolved.

Q. Have you the total number of predecessor companies which were combined to form the system as today consti-
7211 tuted? A. I think I have already mentioned that. About eighty-two companies, exclusive of certain transportation companies that have been in the system and have been out of the system and are not really predecessors of existing companies in the system.

The Iowa Union Electric Company is the only other subsidiary of Union Electric Company of Missouri that has any securities outstanding with the public.

Its capitalization consists of common stock, $999,315, amounting to 52.2 per cent. of the total; $700,000.00 of bonds, 36.5 per cent., and surplus as of July 31, 1940, of
7212 $215,600.00, amounting to 11.3 per cent.

All of the common stock is owned by Union Electric Company of Missouri and the bonds are held by the public.

The property account of this company, on July 31, was $2,254,000.00 and funded debt amounted to approximately 31.1 per cent. of that amount.

I think it might be wise at this time to recapitulate on

—3,060—

the securities outstanding with the public.

All the bonds, notes and preferred stock of Union Electric Company of Missouri are held by the public. The

$700,000 of bonds of Iowa Union, which I have just mentioned, are outstanding with the public, and the bonds, debentures, preferred stock and a very small minority of the common stock of Mississippi River Power Company are held by the public.

Then, St. Louis County Gas Company, the direct subsidiary of North American, has bonds outstanding with the public, but all of its common stock is owned directly by the North American Company.

Q. So that those four companies, Union Electric Company of Missouri, Iowa Union Electric Company, Mississippi River Power Company, and St. Louis County Gas Company, are the only companies which have any securities outstanding in the hands of the public? A. That is correct. 7214

Q. What is the interest and dividend record of Union Electric Company of Missouri and its subsidiaries since it acquired control of such subsidiaries? A. Since that time there has never been any default in the payment of interest or principal on any funded debt in the hands of the public and dividends on preferred stocks held by the public since that time have been regularly paid. 7215

Q. When due? A. When due.

—3,061—

Q. What financing staff do you maintain in the Union group? A. We have no financing staff out there. Of course, I have some familiarity with the mechanics of working up security issues from my previous experience, but we have no financing staff really at all.

Q. And you are engaged in handling other matters besides those dealing with finances? A. A very large part of time, practically all my time, yes.

7216 *John A. Woodbridge—By Respondents—Direct*

Q. How does the Union group handle its financing problems? A. Well, ever since I have had anything to do with any of these financings and, I am sure, long before that, they have always relied on the staff of the North American Company which takes the place of any attempt on the part of the Union group to maintain its own staff and that is done without charge to the Union group.

Q. Would it involve expense if the Union group installed a financing staff at St. Louis? A. I believe it would amount
7217 to quite a considerable expense. The Union properties comprise a very large group and its financing problems, when we have them, run to considerable magnitude.

—3,062—

You would have to go out and retain real experts in the field, if they were available, and, therefore, the ability to rely on North American staff really represents a substantial economy.

Q. Would it be preferable for you to maintain a financing staff in the Union group comparable to that of the North American Company? A. I don't believe that it would. As
7218 you will notice from our attempts to get the Union group down into the smallest number of companies possible, our financing problems would not be a day-to-day matter. We would have one large question of financing at one time and another at another time.

If we had to maintain a financial staff out there, there would be long stretches where there would be nothing for them to do.

Q. Can you give us a typical example of the help which North American renders in financing matters to the Union

group? A. The 1937 issue is a very good example of that. That was a financing of some magnitude. The problems to be met at that time were the refunding of the outstanding funded debt which carried interest rates of 5 per cent. for most of it, and the acquisition of additional capital for expansion.

These problems were given considerable attention by the North American staff and a number of different plans were considered.

—3,063— 7220

At first, the pressing need at that time was an additional generating capacity at the Cahokia Plant and so attention was given to financing Union Electric Company of Illinois. However, the Missouri Company also needed additional funds and there was an opportunity to refund all the funded debt at a reduced interest rate.

A plan was finally arrived at which was developed very largely by the North American staff, was an issue of eighty million of bonds, fifteen million of notes, by the Union Electric Company of Missouri.

Incident to that was the merger of these four companies 7221
on the east side into East St. Louis Light & Powe. Company, which made an aggregation of properties sufficient to support the twenty-two million of bonds issued by the—sold by it to Union Electric Company of Missouri.

The bonds sold carried a 3¾ per cent. interest rate, refunding some $63,750,000.00 of the general mortgage bonds of the Missouri Company, all of which carried a 5 per cent. interest rate, except $11,250,000.00 which had a 4½ per cent. coupon.

The pledge of the Illinois bonds made the security attractive from the point of view of additional collateral and afforded an indirect lien on the assets of the Illinois Company.

The common stock was pledged under the Missouri mortgage as well as the bonds. In addition to the Missouri securities that were refunded at that time, were eight million of preferred stock of Union Electric Light & Power Company

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of Illinois, which was one of the constituents of the 1937
7223 merger; $6,750,000 of bonds of that company and $2,400,000.00 of bonds of East St. Louis Light & Power Company.

If I recall correctly, I think that six million seven of preferred stock was a 6 per cent. stock. The issue produced at least $7,000,000.00 of additional cash for construction purposes; $4,000,000.00 of that was deposited under the Illinois mortgage and $3,000,000.00 under the Missouri mortgage.

Those deposits were subsequently drawn down when the
7224 expenditures were made and certified to the trustees.

To give you an idea of the magnitude of this operation, it required several months of the most intensive work to devise a plan to carry it through. It required the preparation of many papers and documents which included over thirty different applications to four different regulatory commissions—Missouri Public Service Commission, Illinois Commerce Commission, Federal Power Commission and the Securities and Exchange Commission.

All of these documents were quite elaborate in their detail. North American staff was engaged on this in the

beginning, working out the plan and the character of the securities. I, myself, having had quite a bit of experience from the legal end on North American financings, went out to St. Louis as counsel. I was out there for six weeks on the ground, working out the details and these various appli-

—3,065—

cations that had to be made to these various commissions and also the question of registration under the Securities Act.

A great many problems arose in connection with the job; 7226
one that I distinctly remember was the question of financial relationship between the parent company which was issuing the bonds and the subsidiary company which sold its bonds to the parent and which pledged them under its mortgage.

The bankers wanted to make the lien in the Missouri mortgage as close a lien as possible on the business and properties of the subsidiary company, wanted to be sure that the subsidiary couldn't create any type of a security which could come ahead of the pledged bonds, but every now and then, and sometimes fairly frequently, there has to be an interchange, and moneys advanced by the parent company 7227
to the subsidiary. It was finally worked out by the assistance of the people at North American Company that there should be a leeway there and that the subsidiary should be permitted to have outstanding at any one time up to a million dollars which could just be an open account and not represented by pledged securities.

The staff of North American Company were, as I have outlined, extremely helpful in all these questions and they brought their long experience to bear, which they had gained

7228 *John A. Woodbridge—By Respondents—Direct*

over many years in working on securities, both of the Union Electric group and of other companies of the North American system.

—3,066—

I don't mean to imply that a lot of work wasn't done by the St. Louis people. They had an enormous amount of work to do in compiling statistical information and working up the financial statements and working on the registration statement, but I don't believe they had anyone there that
7229 was really qualified to pass on the type of securities to be issued to the public.

Several members of the North American staff were working night and day throughout this whole period.

At the time that I wasn't in St. Louis, I was working on the job back here, very closely with Mr. Piske, the vice president of the North American Company, who stayed right with the job until we broke up each morning, which was around two, three or four o'clock.

Mr. Piske has a very extraordinary knack of being able to push these things through and keep them moving.

7230 Another member of the North American staff, Mr. Allen Van Wyck, was of tremendous value in connection with the mortgage. Mr. Van Wyck was a student of public utility mortgages for many years, having gained a lot of experience from the legal end while he was associated with Sullivan & Cromwell, and since 1933, he had been with the North American System and acquired a great deal of operating knowledge as well.

The representatives of the bankers and their counsel are very good on devising all kinds of restrictive covenants and

restrictive provisions on stock issues which, on paper, sound

—3,067—

very good, and offhand, may seem to be in the interest of investors, particularly when you consider the substance of them, but when you consider the detail of the way they might operate, you can arrive at the same result from the point of view of soundness of the investment, without putting in provisions which may, at times, just hamstring the operation of the company.

So, when you get a man like Mr. Van Wyck, who has had 7232
both the legal and the operating experience, he was of tremendous assistance to me as counsel in just pointing out and explaining to the bankers' representatives and their counsel, how a particular provision would not work satisfactorily with regard to the operation of the company.

Usually, the result would be that a provision would be worked out that was equally satisfactory from the investment point of view, but was much more workable from the company's point of view.

I mentioned my six weeks in St. Louis. Actually, there 7233
was over two and a half months spent on that job, since I started in on it. I was doing the legal work as distinct from the financial.

I wasn't qualified, myself, to make decisions with regard to the character of the securities. That requires real experience in issue after issue, that the North American people, particularly the president of the company Mr. Fogarty had. He has worked with the heads of the investment houses year after year on security issues of the various subsidiaries and

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he follows the types of securities that can be issued and sold under particular circumstances and has always kept very familiar with that situation.

If Union Company had had to rely on its own resources at that time, I think that they would really have had to go out and get some expert people who might have taken the place of the North American staff. I don't mean by that to say that Union Company couldn't have sold its securities, but they had no one and I don't consider that even now we
7235 would be qualified to go out and get the best price obtainable for the type of securities that would serve the company and in the best possible way.

Furthermore, I don't, myself, know of any independent financial experts that would have been available or are available now who would approach the quality of the assistance that the North American Company gives us in such matters and, if they were, they wouldn't bring the same type of approach to these problems that the North American Company people do.

North American has the entire equity in the Union Elec-
7236 tric Company of Missouri and they are a distinctly interested party whenever we have any financing problem, so that they come in, not only with their long experience, but with their financial stake, and I don't believe that there is any expert, any independent expert, or any banking house, however hard it tried to look at these problems from the company point of

—3,069—

view, that could take the place of the North American people.

Their point of view is completely different. The bankers certainly perform a function. Usually, whether they act as agent for the company in the sale of securities or as direct

underwriters for the purchasing of securities from the company and reselling them to the public, their primary interest is to get a security that they can sell as promptly as possible and eliminate the risk that they take, particularly in the case of an underwriter.

They also perform a function of looking out for the interests of the investors, because, in order to protect their own reputation, they want to sell a good security.

But, I have worked on so many of these things with bankers' representatives and bankers' counsel, that I am just 7238
positive that they can not bring to bear the company's point of view, and it is that very important thing which the North American Company brings to our aid in connection with the financial problems.

There is another thing along those same lines. The North American system has quite a number of securities to sell from time to time, much more than any particular component of the group.

That, I believe, gives the system, as a whole, a greater bargaining power than the individual company, itself, might

—3,070— 7239

have.

The bankers in their zeal to sell a sound security at a price that will move it right out quickly, they might well be able to—I won't say exactly put it over on the company, but not get as good a price for the company as could be obtained where you have a lot of securities to sell from time to time. If a particular banker is coming up on one issue, they know that they have got to put in their oar on following issues thereafter and that, I think, creates a greater bargaining power on the part of the combined companies.

7240 *John A. Woodbridge—By Respondents—Direct*

I think that puts the bankers more on their toes than if they were dealing with the company's isolated transactions.

Mr. Browning: That is all.

Mr. Odell: Does that complete your direct examination?

The Examiner: Off the record.

(Discussion off the record.)

The Examiner: We will recess at this point until

7241 2:30.

(Whereupon, at 12:55 o'clock p. m., the hearing recessed until 2:30 o'clock p. m. the same day.)

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Colloquy 7243

AFTERNOON SESSION.

(The hearing was resumed at 2:30 o'clock p. m.)

The Examiner: The hearing will be in order.

Mr. Odell: Mr. Examiner, I am not in a position to cross examine Mr. Woodbridge at this time.

We would like to reserve our right to cross examine Mr. Woodbridge, and will request counsel to recall or make Mr. Woodbridge available for cross examination any time before the evidence with respect to the Union Electric Company and subsidiaries is completed. 7244

Mr. Browning: That is satisfactory.

The Examiner: Very well, that agreement will be followed.

(Discussion off the record.)

The Examiner: In view of the situation, I take it that you gentlemen would prefer to have Mr. Stokes resume the stand tomorrow morning, would you not?

Mr. Browning: That is correct.

Mr. Odell: That is agreeable to me. 7245

The Examiner: Very well, we will recess until tomorrow morning at 10 o'clock.

(Whereupon, at 2:35 o'clock p. m., a recess was taken until 10 o'clock a. m., Wednesday, October 30, 1940.)

—3,072—

7246

BEFORE THE

Securities and Exchange Commission

Docket No. 59-10

IN THE MATTER

of

7247 THE NORTH AMERICAN COMPANY, *et al.*

Hearing Room 1101,
Securities and Exchange Commission Bldg.,
Washington, D. C.,
Wednesday, October 30, 1940.

7248 Met, pursuant to adjournment, at 10 o'clock a.m.

Before: W. W. SWIFT, *Trial Examiner.*

Appearances:

S. PEARCE BROWNING, JR., and CHARLES S. HAMILTON, JR., of Sullivan & Cromwell, 48 Wall Street, New York City, Attorneys for Respondents.

RALPH C. BINFORD and HERMAN ODELL, Attorneys for the Securities and Exchange Commission.

PROCEEDINGS

The Examiner: The hearing will be resumed.

Mr. Hamilton: Will you resume the stand, Mr. Stokes?

Whereupon, STANLEY STOKES resumed the stand and testified further as follows:

Direct Examination by Mr. Hamilton (Continued): 7250

Q. Mr. Stokes, you have previously described to some extent the various divisions and departments in the Union Electric Group, and have referred to the individuals charged with their operation. Can you illustrate the organization of the outlying plants division of the Union Electric Group by reference to a specific community in that division? A. The outlying plants divisions have been previously mentioned, and I shall illustrate the answer to your question by using the Jefferson County division as an example.

That division lies south of St. Louis County and the City of St. Louis, and contains a number of fairly sizeable towns, among which are Festus and De Soto. 7251

The organization of that division is under a general superintendent of all divisions, who is Mr. H. M. Patton. He was mentioned previously. Under him comes the division manager. In this case he is located at Festus in Jefferson County, Missouri.

—3,074—

The division manager is Mr. D. Orville Collins. Mr. Collins is 37 years old, has been with the company for 14

years. He was appointed to his present position in 1939 as the result of the death of the previous division manager, Mr. E. T. Manley, who had been in charge of that division for many years.

Mr. Collins has had various positions with the company, starting in as student engineer, until he is now manager of this division.

Under him is the local representative in each of the larger towns. In De Soto, for example, the local representative is
7253 Mr. Henry Spencer Ditch. He is a man 50 years old, who has been with the company since 1922, and had been primarily engaged in line work. He was a Class A lineman before being made local representative.

The organization at De Soto consists of this local representative and two other men, as well as the young lady who handles the office. These three men have to take care of, or do take care of all of the work that arises in the ordinary routine.

If major construction work or serious cases of trouble were to develop, which would be too great for them to handle, they would call on the division manager at Festus, which is
7254 only about 20 miles away, and he would send over the division crews and equipment.

—3,075—

The outlying division functions somewhat independently from the city, in certain respects; that is to say, all operations which will give the customer better service by reason of being handled locally in the division, are carried out that way.

For example, the collections, credits, billing, and all bookkeeping records and operations which require contact with

the customer, and where he would be delayed if those were carried on in the city, such operations are carried on locally, partly at the local office, such as De Soto, and the rest of it at Festus.

I might illustrate. The metering, of course, has to be done locally, the meter slips and the meter-reading routes followed up in the regular book. That is then transferred to Festus, where the rest of the bookkeeping is done, and the summaries are transferred to St. Louis.

The addressograph work for sending out the bills is done 7256
in St. Louis, but as a usual thing, although not always standardized, the bills are delivered from the division office.

Property records and such matters, which do not concern the customer, are handled in the St. Louis accounting division.

De Soto may be used as an example of the effect on the service and rates and the general effect on electric service in the district, as the result of the Union Electric Group ac-

quiring the properties.

The situation at De Soto is in no way particularly differ- 7257
ent from any of the other typical towns in the outlying divisions, and in the interest of brevity I shall use it as an example.

The property at De Soto, prior to April 1, 1917, was served by the Consumers Electric Light & Power Company. I had some participation in the acquisition of this property, and following the acquisition had complete charge of that division for a number of years, including all operations, such as construction, as well as the ordinary operating functions.

7258 *Stanley Stokes—By Respondents—Direct*

This Consumers Electric Light & Power Company was a small, local power company, belonging to a man named Munroe, and his family, who were residents of De Soto.

The family all seemed to be interested in the business, the father acting in the capacity of president and general manager. There were four individuals engaged in the operation, one of whom was Mr. Munroe's son, and who acted as vice president, and in the office force there was another son of Mr. Munroe who was secretary and acted as a clerk.

7259 The owner himself was active in the operation of the business, and he made agreements for service with the various customers, and handled practically the greater part of the business matters.

—3,077—

The office force was located at a bank which was owned and operated by Mr. Munroe as his principal business, and the company's records were kept more or less in conjunction with those of the bank.

At the date of acquisition by the Union Electric Group,
7260 the property in use, serving the city, was carried at about $55,000 on the books of the Consumers Electric Light & Power Company. This was about what an appraisal later showed. The property itself, briefly stated, consisted of a generating plant containing two 90-kilowatt, 60-cycle generators, only one of which could be operated at a time.

They were driven by a 150 horse-power Corliss engine, the distribution system being about typical for the usual small town at that time, and supplied service to the customers, which numbered 327 as of that date.

During the year 1916, approximately 121,000 k. w. h. were sold by the Consumers Electric Light & Power Company. By April, 1917, the end of the first month's operation by Union Electric, there were 362 customers served.

At the time the property was taken over by the Union Electric, only night service was furnished, except for one day a week when service was furnished for several hours to permit the housewives to do their ironing.

Repeated efforts had been made by the citizens of De Soto to obtain continued service, but had met with no success. 7262

—3,078—

The first month's operation at that town was somewhat hectic. The property was in very bad shape, the plant particularly, and we were repairing it, trying to get it up in shape, particularly the engine. It hadn't been overhauled for so long that when we took the piston out, one of the piston rings had been completely eroded by the water in the steam, and had disappeared, one of the sections of the Corliss rings was totally missing, had gone out through the exhaust.

Within a very short time after we took the plant over, 7263 and were trying to operate it, pending better facilities, the generator burned out a coil. I received a call from the local engineer, so-called. I was in Festus at the time, and I grabbed a car and hurried over there, and on the way over I met young Munroe, who was at that time still acting as local manager for us. He was driving out into the country on some kind of a party, and he hadn't been of much help anyway, so I didn't bother him.

I went on in and found out that the generator was in bad order, called for help and supplies from St. Louis, and in the

7264

meantime we took off our coats and went to work. It was about a 24 hours' steady job there trying to get that thing back into service. We had to go to the drygoods store and get some bias tape, such as women use on their dresses, and some shellac, and rewound the coils for temporary service. That machine didn't last but a few hours. We found it was so old that the insulation was so cracked that you could

—3,079—

hardly remove one coil without damaging the next.

7265 There were two other small generators there that hadn't been used for some time, and we rigged those up during the day and night, and belted them up to the engine temporarily, and were able to continue service.

We then went right ahead with plans for the construction of a transmission line from St. Louis County to Jefferson County, a distance of about 36 miles to Festus, and another 15 miles by the route of the line, over to De Soto.

This line was put in service as quickly as possible, and a sub-station built at De Soto, and from there on we had no further difficulties of any consequence.

7266 The rates in effect at De Soto immediately prior to the acquisition of the property were:

First 20 kilowatt hours per month—15 cents per kilowatt hour.

Next 20 kilowatt hours per month—12 cents.

Over 40 kilowatt hours per month—8 cents per kilowatt hour.

Prompt payment discount for payment within ten days—10 per cent.

Minimum monthly bill: residence service—75 cents; all other service—$1.

The only source of supply which the Consumers Company
—3,080—
had was its little plant which has been described, and the distribution system was all overhead construction of rather early vintage and in no way complied with the usual power company standards, nor was it in accordance with safety code requirements.

In the process later of making an inventory of the property there, I found that the heavy wire was not unusually located at the end of the circuit, with light wire up toward 7268
the plant. In other words, they used whatever they had at the time, and added on.

Subsequent to the acquisition of the property of this Consumers Electric Light & Power Company, many changes were made, two of which were probably the most important.

First, by early 1918, 24-hour service was being rendered as a result of the completion of the transmission line. I am a little ahead of myself there. We began to render 24-hour service before we actually completed the transmission line. The line followed shortly afterward. At the present time the sub-station at De Soto, with a firm capacity of 1,000 k. v. a., 7269
is supplied with the energy required over a 33,000-volt line connected through transformers to our 132,000-volt, double-circuit transmission line. The sub-station at which this voltage is stepped down is located at Festus in Jefferson County, Missouri. This 33,000-volt line also has emergency supply over a double-circuit, similar line, from Rivermines plant,
—3,081—
which has been previously described. Thus De Soto has available adequate facilities for high quality, continuous service.

7270 *Stanley Stokes—By Respondents—Direct*

The second major change which took place after the Union Electric Group acquired the property was a change in the rates. Effective June 1, 1918, a new schedule of rates was installed, under which charges for residential service to customers using from 20 to 50 kilowatt hours per month were reduced from 20 to 45 per cent.; and charges for commercial service of 20 to 50 kilowatt hours per month were reduced in a varying amount, from 23 to 36 per cent.

7271 The customers in De Soto have since benefited from Union Electric Group policy of making voluntary rate reductions.

The present residence rate schedule in effect is:

First 32 kilowatt hours per month—6 cents.

Next 168 kilowatt hours per month—3 cents.

Over 200 kilowatt hours per month—2 cents.

For prompt payment—discount of 5 per cent. on the first $25 of monthly bill, and 1 per cent. on the excess above $25, the discount date being 10 days from the date of the bill.

Minimum monthly bill—75 cents.

7272 Under these rates, charges for energy have been reduced as indicated in a little group of comparisons which I propose to give you, and the reduction refers to the rate in effect at the time we took over the property, or just prior to that.

For a customer using residential service and taking 20 kilowatt hours per month, the per cent. reduction has amounted to 57.8. For various uses per month, in a similar manner, the per cent. reduction varies from a minimum of 44.4 up to as high as 62.2 per cent.

On the commercial rates, a customer using 20 kilowatt hours per month has obtained a reduction of 47.4 per cent.; and one using 250 kilowatt hours per month, a reduction of 58.4 per cent., with the reduction varying in between those values for intermediate use.

Substantial improvements in the service rendered at De Soto have been important factors in the increase in the electric business in that town, the number of customers having increased from the 362 at April 30, 1917, to 1,413 at September 30, 1940, notwithstanding the fact that the population of De Soto has increased only from 4,721 in 1910 to 5,117 in 1940. This little town is not growing rapidly at all, but the ratio of the increase in electric service to that of the population is striking. 7274

Total kilowatt hour sales for the 12 months ended September 30, 1940, were 1,776,546. This is an increase of 14.7 times the comparable total for the year 1916.

Also during the period, the distribution system has been modernized, and the property in De Soto is in excellent operating condition. —3,083— 7275

That type of improvement in the service rendered to the customer is fairly typical of the various outlying plant properties with which I had connection.

Q. Very briefly, Mr. Stokes, can you characterize the labor relations existing in the Union Electric Group? A. The relations between the companies and their some 4,900 employees, have long been harmonious. By "companies" I mean the Union Electric Group and the associated companies which have been previously mentioned to some extent, such as the Union Colliery Company and the St. Louis County Gas Company, and so on.

7276 *Stanley Stokes—By Respondents—Direct*

The 3,800 employees in the Union Electric Group proper are represented by an association known as the Employees Mutual Benefit Association. Since 1918, there have been contracts with the association and its membership, which now includes practically all of the employees of Union Electric Company of Missouri, the employees of the Cahokia and Venice plants of Union Electric Company of Illinois, the Cupples Station Light, Heat and Power Company, the Lakeside Light and Power Company, the Union Electric
7277 Land and Development Company, the Iowa Union Electric Company, the Mississippi River Power Company, and the St. Louis County Gas Company.

These contracts between the management and the association contain agreements with respect to wages, hours of labor, general working conditions, and pensions.

—3,084—

A general labor committee represents the association's members in all labor matters. Most of the questions brought up through this committee that cannot be settled readily are referred for decision to a board of adjustment, about
7278 which I have previously briefly made some remarks.

Major problems are brought to the attention of the management by the association's board of directors, and solutions are worked out through the medium of special committees appointed by these directors to negotiate with the management.

This Employes' Mutual Benefit Association is now, under the present labor laws, the agency for the employees with which to deal with the management.

But the interesting point about this is that this association carried on very similar work and relations for many years previously.

The complete revision of wage rates and job classifications, which was agreed upon in 1937, is a notable example of the satisfactory solution of a major labor problem. No strike of any kind has even been called by the Employes' Mutual Benefit Association.

In the East St. Louis and Alton divisions of the Union Electric Company of Illinois, there are about 350 employees. Those working in offices and on the inside, as distingushed from outside workers on lines, sub-stations, and so on, have

—3,085— 7280

never professed any union affiliation. However, Union Electric Company of Illinois and its predecessors have had contracts since 1899 with the International Brotherhood of Electrical Workers, a branch of the American Federation of Labor, which contracts covered the wages, hours of labor, and general working conditions of the outside employees belonging to that group.

Labor relations have been most satisfactory as indicated by the fact that in 40 years there have been only 7 days of suspended operation caused by labor differences.

Q. Now this is the East St. Louis and Alton divisions? 7281
A. That is right.

St. Louis & Belleville Electric Railway Company has contracts with affiliates of the American Federation of Labor covering wages, hours, and working conditions of trainmen, car repairmen, and electricians, who comprise more than half of the 65 employees of the company. No time has been lost in more than 10 years due to labor differences.

The Union Colliery Company has a labor contract with the United Mine Workers of America, an affiliate of the

C. I. O., covering all but about 50 of the 650 employees of the company.

At various times, idle periods have been experienced, in common with other coal producers, due to failure to agree

—3,086—

with the union on general conditions, but in more than 10 years the property has been idle only one day due to local differences.

7283 Wages paid by the Union Electric Company of Missouri, and subsidiaries, and the St. Louis County Gas Company, compare favorably with those prevailing elsewhere in the locality for similar kinds of work.

Vacations with pay are granted to all regular employees except those on the hourly payrolls of St. Louis & Belleville Electric Railway Company, and Union Colliery Company.

For employees paid monthly, the vacation period is one week after 7 months of service, increasing proportionately for longer periods of service, up to one year, at which time the period becomes two weeks, that is, the vacation period.

7284 For employees paid hourly, the period of vacation is one week for those with more than one year of service, and two weeks after 5 years of service.

The standard work week for non-supervisory employees is 40 hours throughout the property, with a few exceptions, the major one being in the case of the miners of the Union Colliery Company, whose work week is 35 hours. The usual overtime rate is time and a half. That statement has to do with the regular operating employees; that is, where the construction work of a major character is under way, in which

—3,087—

the building trades are involved, most all of their rules now require double time for overtime.

The safety organization in the Union Electric Group is complete, and functions with success. The value of all modern safety devices is recognized, and many are in daily use. Small group safety committees, with representatives from each group, comprising a central safety committee, bring to light hazards requiring correction, and offer suggestions which, in their opinion, will promote safety.

A safety coordinating committee functions to standardize 7286
safety practices throughout the properties, and to see that action is taken to correct hazards that have been observed.

Safety work is encouraged in many ways, such as granting of plaques, cups and other trophies to groups having the best safety records. Any employees in the St. Louis district who would benefit by such instruction, are recommended to attend the foremen's safety training course conducted annually by the St. Louis Safety Council.

In 1939,—113 employees received certificates for taking this course.

A safety bonus plan is fostered by Union Colliery Com- 7287
pany whereby cash premiums are paid for safe operation. Since the beginning of this bonus plan, about $45,000 has been disbursed to employees.

Q. Are recreational activities sponsored by the Group

for the benefit of the employees? A. Recreational and social activities are promoted at the present time under the direction of the industrial relations department, through various employees' committees.

7288 *Stanley Stokes—By Respondents—Direct*

In the summer, employees have their annual picnic, and a separate picnic is held at the same time for colored employees. They have various athletic facilities provided, and in every respect the greatest consideration is given to the facilities for employees' recreation.

A women's auxiliary, comprised of the wives of employees, is also sponsored and encouraged.

Employees with 20 years or more of continuous service are admitted into a veterans' association. As of January 1,
7289 1940, this association had 444 members. That, I think, is quite a striking tribute to the average length of service of the employees of this company.

A savings and loan association, which operates in the State of Missouri as an institution for investment of employees' funds, and as a lending agency to assist employees in financing their homes, is also sponsored.

I was one of the charter members of that association, and I can say sincerely that I believe it is one of the best institutions that the company has promoted and fostered from
7290 the viewpoint of the benefits that the employees have received. A very large percentage of the employees are making regular

contribution to it, and they have built a large number of homes.

As of December 31, 1939, the assets of the association had accumulated to $3,299,535. There were outstanding at the time 1,046 loans, all of which represent houses which the employees are buying and making payments on through the association. I say "all of which", and I should say all

but a very few of which. The total of these outstanding loans represents $3,118,635.

Dividends to shareholders during 1939 averaged 6.67 per cent.

It is necessary for the association as of the present time to refuse to take any additional contributions in certain classes of stock unless accompanied by request for loans. By that I mean that they do not desire at the present time to have depositors who are not installment stockholders or borrowers. There have been times, of course, where the association could use funds, because they had a large demand for loans, but the low rate of interest in other possible investments makes the association's rate very attractive and the group is handling the matters of the association in such a way that the employees themselves derive the benefits, and particularly those employees who are saving their money to buy a home. 7292

The American Legion Post was founded several years ago among employees in St. Louis and the surrounding territory. This Post is extended the privilege of having its

—3,090— 7293

meetings in the main office building, and is given every encouragement in its activities.

—3,091—

Employees who desire to make small loans may borrow small amounts of money to meet some emergency. This loan can be obtained from the company, and repayment without interest is handled by payroll deduction. That covers a small amount of money that an employee may need temporarily. They do not charge any interest for that.

Pensions are paid to employees under a voluntary, non-contributory plan. These pensions have a maximum of $50 a month, and are paid to employees retired between the ages of 60 and 70 years. Consideration is at the present time being given by the management to the establishment of a more comprehensive insured plan on a contributory basis. The plan has been developed fairly completely and is being examined and analyzed by the employees at the present time, and it is expected to be in effect in the near future.

7295 The group insurance feature is extended to employees, and has no company contribution feature involved in this particular insurance. It is merely an opportunity for employees to obtain various forms of life insurance, frequently term insurance, at rates much below that which they could obtain if they went individually to get the same insurance. In other words, insurance companies recognize Union Electrip Group employees as a high preferred risk, because they all have to withstand or undergo a physical examination as a part of their entrance requirements into this Employes' Mutual Benefit Association, in addition to which they have

7296 —3,092—

medical and dental care, as previously mentioned; and the record is such that the insurance companies, when taking the employees as a group, have offered some very attractive rates.

This represents no contribution on the part of the company, but merely an opportunity extended to the employees to acquire insurance at low rates.

The Employes' Mutual Benefit Association has contracts covering a sickness and accident insurance plan in which some 1,600 members participate. Employees in the East St.

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Louis and Alton divisions of the Union Electric Company of Illinois and of the Mississippi River Power Company, and Iowa Union Electric Company, also enjoy opportunities for this life insurance protection.

Sick leave is granted to monthly paid employees to the extent of the number of working days in a two weeks' period, without any deductions from salary. An additional allowance is made in particularly meritorious cases. While hourly paid employees receive no wages while absent from work, efforts are made, within the limitations imposed by working 7298
schedules and the provisions of the Wage and Hour Law, to allow them to make up their lost time.

Q. What is the record of continuous service by employees in the group? A. The average period of service for the employees in the Union Electric group is 11 years. More than

two-thirds of the employees have been in service 5 years or longer, and over half of them ten years and over, and more than 10 per cent. for 20 years or longer.

Q. You previously indicated that the Union Electric 7299
Company of Missouri does a steam-heating business. Will you state why that steam-heating business was developed by Union Electric Company of Missouri? A. It gradually grew into the steam-heating business as the result of supplying electric service to customers who had been running their own steam-heating and electric generating plants in the larger downtown buildings.

It originally began to supply steam service in the decade between 1900 and 1910. To obtain the electric service load of this type of user, it was generally necessary also to

undertake to supply steam for heating or process purposes which the user had previously obtained in connection with his power generation. Initially such service was provided by using the boiler equipment purchased or leased from the concerns who had discontinued the operation of their own generating plants. This was costly and required maintenance and upkeep on a large number of independent isolated plants, and in 1909 several of these isolated plants were connected through underground mains with a steam power
7301 plant at Tenth and St. Charles Street in the City of St. Louis.

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From this start in central station service, the network of underground steam lines grew, until in 1924 it was connected through a large main to the Ashley street power plant which is located down on the river, and has been previously discussed.

Thereafter the major steam requirements were supplied from that point, and in 1931 a second large feeder main was constructed from the Ashley street plant, connecting with
7302 this Tenth Street plant, to provide additional steam capacity and to further improve the reliability of the service.

Q. How extensive is the steam-heating service? A. The steam-heating service as now operated has 414 customers, and the distribution system includes 72,400 feet of mains, together with the necessary regulating, metering and auxiliary equipment, with a total investment of approximately two and one-half million dollars.

The customers have a connected radiation, that is, the number of square feet of radiators connected to the steam

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system, amounting to 2,860,000 square feet, and are heating a total volume of 239,000,000 cubic feet. The normal annual sendout from the steam-heating plant in town is in excess of 1,000,000,000, and the peak hourly demand is slightly over 600,000 pounds of steam.

The system covers the downtown section of St. Louis. 60 per cent. of all of the buildings which are immediately adjacent to these steam lines are supplied heat by the Company. All but one major hotel in downtown St. Louis, and

—3,095— 7304

all main department stores, are served.

The department includes 47 employees. The average length of service with the company is 14 years.

The steam business in St. Louis is just incidental and a necessary operation on the part of the Union Electric Company of Missouri. It is a case of having to supply the service or run the possibility of not being able to suitably supply all the requirements of the customer, in which case there is no doubt that we would not be able to obtain all of the electric service which we now supply.

Q. Explain that, if you will? A. If the customer has to 7305 put in his own boiler plant, and if we are not able to supply all of his requirements, it is only one more step for him, if he has to have his investment in boiler plant and the operation expenses of employees and the handling of purchasing of coal,—it is only one more step to install a generator and produce at least part of his power requirements, possibly the greater part of them, during the heating season.

The revenues from these heating customers amount to about $800,000 for steam, and the approximate annual rev-

enue from the same customers is in the neighborhood of $1,000,000 for electricity. So the services are just a direct adjunct of each other.

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The benefits to the customers are better service and better use of their floor space in their own building, which is quite an item, and from the standpoint of the public it eliminates the handling of large quantities of coal by trucks in the streets, and it eliminates a large number of individual plants,
7307 which is a major asset in the reduction of the smoke nuisance in St. Louis, which is quite serious.

The generation of steam at our Ashley Street plant, through some large modern boilers there, equipped with Cottrell plants, will in the future almost entirely eliminate the smoke which would have been made by all of these independent plants.

So that the steam business is just an incidental business in connection with the electric, but it is entirely appropriate to it, that it is a parallel operation.

There are many advantages in this joint operation. The
7308 company has a large force of trained engineers and maintenance men, and they are available not only to the steam-heating department for its own work, but to act as consultants with the customers and help them improve their operations.

As a means of adding economy to the customers' operations, we have spent considerable time and effort in going over his heating problems with him and improving his efficiency. In other words, it is not our purpose to see how much we can make the customers spend for steam heating, but to keep the overall costs of his electric and steam service within

limits so that he is a satisfied customer, and so that we know

—3,097—

we can retain the business. And in doing that, nobody benefits by a lot of steam that is wasted, and the pounds of steam per season, per cubic foot of volume heated, have been materially reduced as the result of this activity.

Q. Now in what other respects are the electric and the steam properties jointly operated? A. Well, the officers and executives of the electric company, the Union Electric Company of Missouri, function for the steam-heating department 7310
and it does not increase the cost to the company because the same individuals would be required without the steam company. It is not sufficient in volume to cause any actual increase in executive expenses, but it does give the benefit of their advice and assistance.

It maintains an operating organization somewhat independent of the electric operating department, but under the general supervision of the electric company's supervisor. In all other respects, except that, the general organization of the electric company—by that I mean the Union Electric Company of Missouri—functions for both departments and 7311
requirements such as general accounting, billing, purchasing, stores, sales, legal advice, transportation and so on, are all furnished to the steam group.

The underground construction crews of the electric company, including all equipment, are used frequently and extensively in the construction of steam mains and feeder un-

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derground work.

We already have those trained crews for putting in conduit lines, and the steam company can get the use of them.

The common facilities of the Ashley Street steam boiler plant are made available. That is the chief benefit of joint operation because, as I have previously explained, the Ashley Street station functions as a steam reserve station for our hydro system, and the minimum power output from the hydro system occurs in the summertime, in the dryest year on record, and at that time the steam-heating requirements are at a minimum. The result is that the two can function with very little overlapping and to make use of practically the
7313 same equipment. There is also an offset between the hour of peak steam-heating demand, which usually occurs early in the morning, trying to get the buildings warmed up, and the maximum demand on the electric system, which occurs at about 11 o'clock in the summertime and after the steam-heating load has completely gone off in the winter, in other words, at about 4:30. So that there is a high degree of diversity between the steam and electric requirements, and it particularly fits in with the summer low-water season in the hydro plants.

The result is that if the steam company were to be
7314 operated separately, they would have to have a separate steam-heating plant which would cost in the neighborhood of $1,290,000. We would have to—and by "we" I mean the Union Electric Company of Missouri—would have to retain

—3,099—

the Ashley Street station in practically its present size as a steam reserve for hydro operations. The result is that the combined operations of the two functions in the one plant are economical and proper.

Q. Before you leave the joint operations, let me ask you one or two more questions. Do the buildings operated by

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the Union Electric Company of Missouri receive steam heat from the steam department? A. They do. They receive it at the cost of production, and not at the retail rates at which steam is ordinarily sold; so they benefit to that extent.

Q. And are office facilities provided by Union Electric Company of Missouri for its steam-heating department? A. They are provided, but the cost to the company for those offices is allocated at cost without any overhead to the steam-heating department. But the net result of this is a material savings to the steam-heating company. They couldn't main- 7316
tain offices such as they have for the price they are paying.

Q. State if you will the approximate amount of savings arising out of the joint operations of the steam and electric businesses? A. As the result of making a fairly detailed estimate of a number of small items which indicate the savings obtained by joint operation, the round figure total for a group of miscellaneous items is $13,000 a year. This particular group of items, briefly mentioned, includes the use

—3,100—

of the general office building space and facilities, the services of the general accounting, billing and collections department, 7317
including the credit and adjustment work; purchasing facilities; the handling of material for the steam department by the electric stores group; the machine and utility shops; and miscellaneous services. All of those combined represent an annual saving of about $13,000, somewhat over $13,000, on a conservative estimated basis. This is a saving to the steam group as compared with separate and distinct operation.

Now the saving which I would estimate as the result of the joint operation of the Ashley Street generating station is

that of the fixed charges on a separate steam-heating plant. The steam cost billed to the steam company from the Ashley Street station is billed at cost, and the equipment and boilers and facilities are such that it could produce steam there as cheap or cheaper than it could anywhere else. If we had to build a separate steam-heating plant it would have to be built in a different location and water supply facilities would not be as good as they are at Ashley Street. So that I am very conservative when I say that the steam department
7319 would have to bear the fixed charges only on the new plant. I doubt if they could produce the steam quite as cheaply there as they now get it. Those fixed charges on $1,200,000 at a very conservative figure of 10 per cent. total per year, to include interest, taxes, depreciation, and such items, would

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amount to $120,000 a year. The actual charge billed against the steam department for what may be regarded as the equipment fixed charges for the Ashley Street plant amount to about $36,000. The actual figure for the past year is $36,112. This results in a saving of $84,000 in round figures.

7320 —3,102—

Now in addition to the two items which I have mentioned, there would be a large number of small miscellaneous items which I have not attempted to detail exactly, but I would say that they would far exceed $3,000 a year, with a total then in combined savings being estimated at $100,000 for the steam group as compared with independent operations.

In addition to that, there is an economy to the electric company itself, these savings here having been those expressed in terms of the economy that the steam group gets.

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The electric company has a problem in the operation of the Ashley Street plant that the same crew has to be kept there at all times that is required for regular operation. The boilers and equipment such as are used today operate with automatic equipment, that is the pulverized fuel operation and the automatic heat control equipment, so that about the same operating force is required whether you are carrying a light load or a full load. The result is that if we are carrying the maximum output from the plant, the men themselves do not do anything different than if they were running 7322
on a very light basis. During the period in which the Ashley Street plant is not used for generation, but is carried as a stand-by plant solely for immediate operation on notice, the electric company would have to bear the entire cost of the operating crew and miscellaneous expenses, if it were not for the fact that the steam department can use steam during those periods, and does.

—3,103—

It is not possible to provide an exact estimate of this saving for the simple reason that it is impossible to say just 7323
how much generation an electric company will do in an average year. If no generation were done for an entire year, these savings would represent possibly $134,000. If, on the other hand, the operation was continued for half a year, it would reduce that amount to about one-half.

Now the method by which I arrived at that figure is this. The present monthly payroll at the Ashley Street plant for operation and maintenance is about $16,400. Under the present basis of apportionment of cost between electric and steam service accounts, the electric generating accounts

absorb about $5,167 per month, including $4,154 for operating labor and $1,013 for maintenance. I just picked these out from the 1939 operations. The excess of $11,233 of monthly payroll expense is to a large extent absorbed by the steam service accounts, when no electric generation is done. That is, in other words, they bill the steam company at actual cost for the steam produced, and if there happens to be a little generation they get most of the charges. At the same time the electric company would have to bear the same expense
7325 in any event.

So that I would say that within the limits of possibly $50,000 a year minimum and $135,000 maximum, that some figure in the neighborhood of $75,000 to $100,000 would be a fairly reasonable estimate.

—3,104—

Q. Now this represents a saving to the electric business? A. That is right. In other words a combined saving which it appears to me would be a fair estimate as a combined total saving to the group might be taken to be at a maximum of $200,000, and probably not less than $150,000 or $175,000
7326 at any time.

Q. Are there similarities as between the electric and steam-heating business with regard to demands for continuity and character of service? A. Oh, they both have the same general problems. It is a little more difficult to provide continuous electric service than it is continuous steam service, but in general they have similar problems.

They both use the public streets, and they both are regulated alike, and they both involve the selling and delivery of a service, rather than a commodity; and they are both patronized by most of the communities in the area served.

7327

Consequently, where such two utility services are operated jointly, there is an economy in the supplying of the service, and a benefit to the customer. You only have one group to deal with, and only one man is required to read the meters, and in general it is advantageous to all parties to maintain such service.

As a rule, the supply of steam service is not generally regarded as a particularly profitable business. All the advantages and economy from this joint operation are reflected in the rates and quality of service so that the consuming 7328
public is the one who is ultimately benefited thereby.

—3,105—

Q. In order to get a picture of the trend, if any, in the steam-heating business, will you state a comparison between steam-heating revenues and output and number of customers, between the year 1930 and the year 1939? A. Well, for the year 1930 the heating revenue was $755,596. At that time there were 287 customers who used 887,763 M pounds.

In 1939 the heating revenues were approximately the same, being $750,510, with steam sold being 870,329 M 7329
pounds. The number of customers at the end of the year 1939 was 390.

You will notice that there was a slight reduction both in revenue and in steam sold, but in general the business has been fairly uniform. The largest year was in 1937 when the revenue went to $828,956, and the steam to 1,004,699 M pounds. The amount of those items is a function of the temperature, it is a matter of how cold a year we have.

Q. Those statistics are exclusive, are they not, of the steam-heating business conducted by the Cupples station

7330 *Stanley Stokes—By Respondents—Direct*

Light, Heat and Power Company? A. Well, they are, but you wouldn't be able to detect the difference hardly if you added that in. The Cupples Company has 11 steam-heating customers in one block of buildings, and obtains its steam from the steam-heating mains of the steam division of the Union Electric Company of Missouri.

I explained that there was a little generator operated in

—3,106—

7331 this Cupples block, and I do not recall that I did explain how that energy, generated by that little generator is sold back to the Union Electric Company of Missouri.

Q. I think you have explained it. A. All right.

Q. Now when was Union Colliery Company organized, and what does it do? A. Union Colliery Company was organized in 1917. It carries on a coal mining business and sells coal to the Union Electric Group and to outside users.

It is a mining company of considerable size, and well regarded in the State. It is located in the State of Illinois, near Duquoin.

7332 Q. Has it been a subsidiary directly or indirectly of Union Electric Company of Missouri, since its organization? A. At the present time it is a subsidiary of the Union Electric Company of Illinois, which in turn is a subsidiary of the Union Electric Company of Missouri. It has, to answer your question generally, been a subsidiary.

Q. Of Union Electric Company of Missouri, since its organization? A. Yes.

Q. Now very briefly state what properties the company owns and operates? A. The company owns and operates this

mine to which I have referred, located near Dowell, Illinois,
—3,107—
about 85 miles from St. Louis, in a southeasterly direction.

The present operations are in the field generally referred to as the Franklin County field. This coal in this field is of better grade than the coal in and around St. Louis. Coal is removed from what is known as the Illinois seam No. 6, which varies from 7 to 12 feet in thickness, and the quality of coal compares favorably with the best in Illinois, being low in sulphur and high in heat content for an Illinois coal. 7334
It is entirely satisfactory coal for use in all the company's steam plants.

The company—that is the Union Colliery Company—has under consideration leasing additional tributary coal lands to the west and south of the present mine, of approximately 3,000 acres. It also owns coal rights to 18,000 acres of land containing about 25,000,000 tons of coal, which location is only about 25 miles from the St. Louis switching district.

The property of the mine is wholly mechanized and electrically operated throughout. In fact, the mine is as modern as any mine in Illinois. It has complete automatic skip 7335
hoists, and the interior of the mine is completely equipped with electric haulage and electric loading is done with mechanical loaders, and in every respect it is a very modern mine.

Underground hauling is done by electric locomotive. As a result of the relation of the Colliery company to the Electric Group, we naturally do the electrical engineering for the
—3,108—
mine, and I believe that if you were to visit this mine you

would see some striking differences in method followed, which are somewhat different from those frequently carried on. In other words, they have automatic sub-stations located down in the mine, and feed them at somewhat higher voltage, and in every respect, carry on about the same type of distribution we ourselves use above ground, only taking the special precautions which are necessary in mining work.

The trackage underground is completely equipped with special electric interlocks and means of cutting off one sec-
7337 tion of the track in case trouble exists on the trolley or rail system, which is not customary in most mines.

The daily capacity of the mine is rated at 5,300 tons. Production for the year ended June 1940 was 1,305,000 tons. The property account of the Union Colliery Company as of September 30, 1940, amounted to approximately $2,375,000.

Of this 1,305,000 tons to which I referred as the production for the year June, 1940, 1,260,000 tons was salable, the rest being lost in waste cleaning, that is in washing, and a certain amount of use at the mines.

The sales of this 1,260,000 tons were approximately
7338 divided into 1,010,000 tons to the Union Electric Company of Illinois and the Union Electric Company of Missouri; and 250,000 tons to outside customers not connected with the Union Electric Group. That is, in other words that the sales

were approximately 80 per cent. to the Union Electric Group and 20 per cent. in the ordinary coal markets.

The average revenue from coal sold to the Union Electric Company of Illinois and the Union Electric Company of Missouri, was $1.706 per ton, and to outside customers—

$2.23 per ton. You see the Union Electric Group take screenings and a little lower grade of coal, whereas the outside customers are regular coal customers for prepared sizes. A good deal of that coal goes to the Chicago district.

There are about 600 men employed, and the mine is the chief source of income for the population around Dowell, Illinois.

Q. Now you have stated the annual output for 12 months ended June 30, 1940, and given for that period the relative sales to the Union Electric Group and outside. Please give 7340
us comparable information, very briefly, for a preceding period. A. I have available the sale of coal over the last 10-year period, and I will just sketch the tonnage roughly.

For the year 1930 the tons sold were 1,159,314. That varies for reasons which I shall explain shortly. It has reached the lowest, in the year 1933, at the bottom of the depression, and pretty low in 1935. Those years were not only depression years, but they also represented fairly good hydro years. I will go into that in a moment.

By 1939 the sales had again become 1,041,561 tons. For 7341
—3,110—
several years during that period the sales had exceeded 1,000,000 tons.

Q. Now if you will, a very brief indication of the range in gross revenues during the period you have indicated. A. The gross revenues have varied from a minimum of about $813,000 in 1932, and slightly more than that in 1933, to $1,914,000 in 1939.

In general, out of the 10 years, for eight years out of the 10, the revenue has exceeded $1,000,000 a year gross.

Q. Now in percentages, the amount of coal produced, sold within the Union Electric Group, and the amount sold to others. A. I have stated the division for one year as being roughly 80 and 20 per cent. It doesn't vary greatly from that, but I will state the distribution for a five-year period by years.

In 1939—75.4 per cent. was sold to the Union Electric Group, with the remainder of 24.6 per cent. sold outside.

Similarly, in 1938—73 per cent. to the Union Electric
7343 Group; in 1937—69 per cent.; in 1936—71 per cent.; and in 1935—63 per cent. was sold to the Union Electric Group, and principally the Union Electric Company of Illinois and the Union Electric Company of Missouri itself.

The explanation which I wanted to make with regard to the wide fluctuations of the supply of coal and the demand for it, has to do with the correspondingly wide fluctuations in hydro power for the Union Electric Group, and on short notice they call the coal company up and tell them that they

will not need the anticipated coal next month, or that they
7344 will need twice what they anticipated. This is a difficult situation for a mine to accommodate itself to. It requires that it go out in the open market frequently and buy additional coal to meet our demands, and then again that it reduce its operations rather suddenly and endeavor to find an outside market quickly for shipping the coal. They have been very successful in meeting these requirements, but they would not be readily met by contracts with outside coal mining companies.

Q. Does the Union Electric Group buy all of its coal from the Union Colliery Company? A. No, it buys most of it. As

7345

I indicated, there are times when the company buys coal in the open market. Usually the Colliery Company purchases the coal for us because they have more experienced men in this particular work.

Q. Now in general, what are the bases for charges for the coal made by Union Colliery Company to the Union Electric Group? A. The basis of the charge for intercompany sales has in the past been such that the price paid by the Union Electric Group would be no greater, or nearly the same, as could be determined, as that which they could have obtained 7346
from contract with outside suppliers. In other words, in all cases the coal has been sold to the Group in competition with the best responsible contracts which could have been secured with equivalent satisfactory coal. As a result of the passage

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of the Guffey Coal bill, the so-called intercompany sales, or sales to the Group, will be, of course, determined by the prices stipulated in the Guffey bill. So that that is a rather definitely defined basis.

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The reasonableness of charges made prior to the establishment of the Government prices is indicated by the fact 7347
that with the establishment of these minimum fair prices, the effect does not change the prices to the group by more than 2 per cent. on either coal delivered by the colliery company or on coal which they purchase on the outside. That merely demonstrates that the method of pricing has been fair and accurate and corresponds with the prices set when the Guffey Bill went into effect.

The Examiner: Let us take a short recess.

7348 *Stanley Stokes—By Respondents—Direct*

(Whereupon, a short recess is taken, after which the hearing is resumed.)

The Examiner: We will resume.

By Mr. Hamilton:

Q. Now, Mr. Stokes, what advantages are there to the Union Electric group out of the ownership and operation of the Union Colliery Company? A. Well, I have previously
7349 described the wide variation in the requirements for coal brought about by our hydro power, and the fact that we can make that kind of an arrangement with a company which is owned by the group much more satisfactorily than with an outside concern.

In addition to that, the control of our source of coal supply by the ownership of the mine is an insurance against a shortage of coal, and a protection for our customers.

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It is quite an item to be able to control the source of your own supply of a commodity which is the most important
7350 of anything with which we deal.

Q. Now, when was St. Louis & Belleville Railway Company organized? A. The St. Louis & Belleville Electric Railway Company was organized in—well, I can't say exactly when it was organized, but I can state when it came into the control of this group.

Q. All right, state that if you will. A. The first connection which this group had with it occurred when it acquired the control in 1922. It had been a part of what was known as the local railway and suburban system there, and the control dates from 1922.

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Q. Now, what does the company do and where does it operate? A. The company owns and operates a freight line, a short line of 11 miles in length, single track, which runs from a point in East St. Louis, at which it connects with the Terminal Railroad Association, and other railways, including the Alton and Southern Railway, and the Southern Railway Company, from this point of connection to a point not far from Belleville, Illinois, a distance of 11 miles.

At the southeastern terminus, that is the point near Belle-
ville, it connects with the Illinois Central Railroad, over 7352

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which moves practically all of the fuel consumed in the Union Electric plants. By "Union Electric plants," I mean those of the group.

The investment in the railroad property is about $1,300,-000, and it normally employs about 60 men.

Q. And what does its property consist of? A. In addition to the single track line described, it has the trolley and feeder equipment, and two heavy type electric locomotives, one an 80-ton and the other a 90-ton locomotive. This latter 7353
locomotive has just been recently acquired and reconditioned, and will handle 18 to 20—50 ton cars at a time.

It is a well operated little road, has fully automatic sub-stations for supplying the current which it purchases from the Union Electric Company of Illinois, and in addition to two such automatic sub-stations, one not far from either end, it has recently acquired a portable 3,000 kilowatt sub-station which is mounted on a railroad car and can be located as required.

7354 *Stanley Stokes—By Respondents—Direct*

Q. Have you stated how many coal cars the company owns and operates? A. The company owns several hundred which it uses itself and which it also leases out to other companies. There are about 450 steel and composite cars. It doesn't use all of those at all times for itself, but when the demand for coal is heavy it uses a large part of them, and the

—3,116—

rest of the time it leases them out and obtains some of its revenue that way by rental from other roads. As a matter
7355 of fact, the ownership of this group of cars is an additional insurance against the shortage of coal for the Union Electric group.

During the previous World War we, in company with other users of coal, had great difficulty in obtaining an adequate number of cars, and if such a condition again arises, these 450 cars would be adequate to handle our requirements.

Q. Now, you stated, Mr. Stokes, that the principal business of the company was the hauling of coal. What proportion of the coal hauled by the company is constituted of coal
7356 going into the Union Electric group? A. The records for the last five years indicate that about 88 per cent. of the 3,620,204 tons hauled, were delivered to plants of the Union Electric group.

The company, in addition to the revenue paid from the rental of these cars, gets most of its revenue from a rate division from the connecting lines from whom it receives coal shipments.

Q. State the range, if you will, of net income for the company during the period 1930 to 1939? A. The smallest

net income during that 10-year period was $19,000, and the highest $116,000, the average income for the 10 years being about $56,000 a year. At no time during the 10-year period,

—3,117—

which included the depression, did the road operate at a loss.

Q. I don't believe you have indicated the net income of the Union Colliery Company. Will you give us that figure as of a recent date? A. Well, for the year 1939, the net income of the Union Colliery Company was $61,408. 7358

Q. Does Union Electric Company of Illinois conduct a gas business, and if so, for how long a period has it conducted such a business. A. The gas business conducted in the city of Alton is owned and operated by the Union Electric Company of Illinois. It is a small gas business and is not a major part, at all, of the Union Electric Company of Illinois' chief operations.

The gas business has been an associated business with the Union Electric group since 1922.

Q. Now, you are speaking specifically of that business operated by the Union Electric Company of Illinois, are you not? A. That is right, in and around Alton, Illinois. It at one time had been the Alton Gas & Electric Company, which was acquired by Union Electric Company of Missouri, and merged with the Union Electric Company of Illinois in 1937, and the business has been carried on since that time in the name of the Union Electric Company of Illinois. 7359

—3,118—

Q. Now, very briefly will you describe the property owned and operated in gas service by Union Electric Company of

7360 Illinois? A. The business of the company in the gas distribution, that is the territory in which this business operates, is located in and around Alton, which has been previously discussed and located as a town line some 20 miles north of East St. Louis. The company buys its gas as a mixture of manufactured and natural gas, from the Illinois-Iowa Power Company, and its own manufacturing company is operated primarily as a stand-by in the event of failure of purchased gas.

7361 The gas purchased and distributed to the users of gas in and around Alton has a heat content of 565 B. t. u. The stand-by plant is a carbureted water-gas plant with a capacity in three storage holders of 299,000 cubic feet. The production capacity of the plant is 200,000 cubic feet a day.

The distribution system is rather simple and consists of 63 miles of main, 5,778 services, serving 5,020 customers as of December 31, 1939.

Fifty-four out of the 63 miles of main are cast iron low pressure, and 9 miles are high pressure main.

7362 The sales of gas in 1939 amounted to 75,300 m. c. f. for domestic purposes, and 21,200 m. c. f. for commercial use.

There are no house heating or major industrial customers in Alton.

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Q. Is the gas business of the Union Electric Company of Illinois operated jointly with its electric business? A. It is. They are operated just in close parallel operation, the same personnel both as to managerial, commercial and in general, practically all functions. Meter readers serve both businesses and in every possible respect they are operated as

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though they were one company insofar as possible. They are one company, but I mean as though they were one business.

Q. Are there advantages arising to Union Electric Company of Illinois out of the joint operation of the two businesses? A. There are. Economies from the joint operation are the result of common use of every feature which is in any way possible. We have the same executive, same managers, the same maintenance groups, and meter readers, and collection system, and employees and so forth.

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Q. I want you to be a little more specific on that. Can you state the amount of executives' salaries apportioned to the gas business in 1939? A. Well, they only apportioned $1,583 of executive salaries in 1939, and that would in no way have provided adequate executive supervision had it been operated separately.

As another example, meter reading costs in Alton have been compared with those in East St. Louis, which is operated by the same company, and which has no joint gas service.

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The costs were 43.5 cents per customer in the Alton district, as compared with 52.9 cents per customer in the East St. Louis district, the difference being due to the use of common meter readers for both services.

Collection costs at Alton in 1939 were 38.3 cents per customer, compared to 44.7 cents in East St. Louis, which again shows the economy derived from joint billing and collection.

Q. There is also a factor that because of the small size of this property it would be unable to obtain expert personnel such as it is able to get from its associated companies, and it isn't only a matter of just the particular cost, but a small

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company like that could not afford the type of personnel that is available now to it. It can call on the Union Electric group in the electrical division for any electrical engineering work it may require, also on the mechanical groups and so forth. In fact, it can get an expert in almost every branch of its work, and that particularly applies to the assistance which it can get from the St. Louis County Gas Company, which will be discussed later.

7367 The joint operation, taken as a whole, in the company up there, affords very appreciable savings which have been estimated at $33,850 a year as the combined effect of such joint operation. That total is divided into the savings due to ex-

ecutive and department heads, sales, accounts, treasury department, distribution, storeroom and garage, and general office facilities. That perhaps doesn't sound like a huge sum of money when considered in the light of some of the figures we have been discussing, but it must be recognized that this is a small gas company.

7368 Q. Are there advantages to the customers of Union Electric Company of Illinois arising out of the joint operation of the two businesses? A. Well, any division of expenses which represents a saving to one company also represents a saving to the other. The best way to state it is that the economies of joint operation represent a certain overall saving which is distributed between the two groups and it affects each.

Q. Does the joint operation result in simplicity in meter reading and billing as well? A. It does, it results in simplicity and economy in all those operations.

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Q. In order to get an idea of the relative importance of the gas business, will you give us a comparison of the number of customers served, the gas sales and revenues, for the period 1930 to 1939? A. This gas business to which you refer is the gas business conducted by——

Q. (interposing) My question relates solely to the Union

Electric Company of Illinois. A. In 1930, there were 5,301 customers and there has been a slight decline, and by 1939 there are 5,020. The business has decreased slightly in the last 10 years, both in number of customers and in sales. The gas sales in m. c. f. in 1930 were 117,149; in 1939, there was a decline to 96,571.

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The revenue likewise declined from $180,037 in 1930 to $141,631 in 1939.

This business is a very small fraction of the business conducted by the Union Electric Company of Illinois, and as a matter of fact it is less than a half of one per cent., referring to revenues, of the consolidated revenue of the Union Electric group.

7371

Q. Does Iowa Union Electric Company conduct a gas business, and if so, how long a period has it done so? A. The Iowa Union Electric Company now operates a gas business which was previously known as the—well, I have got to correct that, the Iowa Union Electric Company which had a predecessor company known as the Keokuk Electric Company, operated a gas business in and around Keokuk. The Union Electric Company of Missouri, on January 6, 1926, acquired the interests which included this gas business. The business is now operated by the Iowa Union Electric Com-

7372 *Stanley Stokes—By Respondents—Direct*

pany, which is a direct subsidiary of the Union Electric Company of Missouri.

Q. State briefly what property the company owns and

—3,123—

operates, devoted to the gas business? A. The gas distributed in the city of Keokuk and vicinity is manufactured in a water gas plant whose capacity is 1,500 m. c. f. daily. The gas itself has a heat content of about 540 B. t. u. per cubic foot. The plant consists of two carbureted water gas sets,

7373 with the usual equipment, and a holder of 150,000 cubic foot capacity.

The distribution system has 33 miles of main which served 2,439 customers, as of December 31, 1939. The system of mains is cast iron and operated at low pressure. In other words, the pressure used is that at which the gas is used by the ultimate consumer.

In 1939, there were 40,500 m. c. f. sold and used almost entirely for domestic consumption. There is no house heating business and a very small amount of commercial business.

7374 Q. Are the electric and gas properties of the Iowa Union Electric Company operated jointly? A. They are, and the discussion which applied to the operations of the Union Electric Company of Illinois previously, with respect to the Alton Gas property, also applied to the joint operation of this gas company in which every opportunity available is taken advantage of to produce a more economical operation as the result of operating the two properties jointly with the same personnel and employees and facilities.

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7375

Q. Now, do you mean by that statement that the advantages and benefits accruing out of joint operation in the Union Electric Company of Illinois are similarly applicable to the joint operations in the Iowa Union Electric Company? A. The nature of the operations and the nature of the advantages—I don't mean to say that numerically they are.

Examples of the economics of such joint operations can be given for the gas business at Keokuk.

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For example, executives' salaries apportioned to the gas property in 1939 were only $574. Obviously, it would not have been possible to have had adequate executives for that sum. The cost of reading meters in 1939 was 43.7 cents per customer, compared with 47.9 cents in Fort Madison, Iowa, which is the city immediately north of Keokuk, and which is operated by the same company, but does not have the joint benefits, only electric operations being conducted at Fort Madison.

52.9 cents per customer in East St. Louis, as compared with this 43.7 at Keokuk, which indicates similar benefits of joint operation.

7377

Collection costs in 1939 were 30.3 cents per customer for the Keokuk location, compared with 44.7 cents per customer in East St. Louis, where only electric customers are handled.

Billing and accounting expenses for the gas property amounted to 47.7 cents per customer as compared with 60.4 cents for East St. Louis—again where only electric accounts were handled.

7378 *Stanley Stokes—By Respondents—Direct*

They only render one bill in Keokuk to cover both electric and gas service, put them both on the same bill, the same meter reader, and there is a joint, parallel operation wherever possible.

This gas property is also a small property compared to the system of the electric property with which it is associated,

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and again the matter of personnel is of interest. It would
7379 not be possible for them to have the same type of experienced and skilled supervision and employees to which they now have access on a part-time basis.

I can sum up the estimated savings of joint operation as being something over $10,000 per year as affecting the gas company. Again keeping in mind that it is a very small company, this represents a substantial amount.

Q. Are there benefits arising to customers out of the joint operation of the two businesses by the Iowa Union Electric Company? A. Yes, the customer has simpler service, he has to deal with only one group, and has contact with
7380 only one meter reader, and he can pay his electric bills and his gas bills at the same office, or if he sends them by check, only one check is required, and the same clerk will handle any requests, whether for electric or gas, or both, in the event the customer wants to move or get service at a new location; and in many ways it is convenient and beneficial to the customers.

Q. Now state, if you will, the trend in number of customers, gas sales and gas revenues, for the Iowa Union Electric Company during the period 1930 to 1939? A. This

7381

small gas business has decreased somewhat in the last 10 years, both as to customers and sales.

In the year 1930, it had 2,813 gas customers, with sales —3,127— of 60,533 m. c. f., and a gross revenue of $102,675.

By 1939, the number of customers had reduced slightly to 2,439, and the sales in m. c. f. to 40,466, with a reduction in revenue to $56,284.

This company had a revenue in 1939 of less than .2 per cent. of the consolidated revenue for the Union Electric Group.

7382

Q. Now you are speaking of the relation of gas revenue of the Iowa Union Electric Company? A. That is right. I wanted to point out that it is a very inconsequential part of the major operation.

Q. When was Union Electric Land & Development Company organized, and for what purpose? A. The Union Electric Land & Development Company was incorporated in 1929 to hold the land which it had been necessary, or would be necessary, to acquire as a part of the Bagnell Dam and Lake of the Ozarks hydro project.

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The portion of the land required for the project was to be conveyed to the Union Electric Company of Missouri, who owned the project, and the so-called excess land, that which had to be acquired but which could not be included in the power project, was placed in the Union Electric Land & Development Company, so that it could be sold as readily as possible.

If this had been placed in the properties of the Union Electric Company of Missouri, it would have gone under the

mortgages and it would have been difficult to make arrangements to sell it, and the intention is to sell this land and

—3,128—

liquidate this company as fast as it is possible to do so.

They are in the act of selling the land. The depression has interfered materially with the rapid sale of that land, because just at the time when there was the greatest public interest, we ran into the worst part of the depression, and people didn't feel able to purchase land which they did not

7385 have to have. This is largely useful for summer resort purposes.

They originally had about 70,000 acres of excess land, and that has been reduced to approximately 52,000 acres as of the present date. The actual acreage at the end of the year 1939 was very close to 53,400; and 1,418 acres have been sold in the first 9 months of 1940. So that, roughly speaking, 20,000 acres have been disposed of.

The company made every effort to make the purchase of this land attractive so as to be able to dispose of it, and they

7386 rebuilt one of the existing buildings at the site for a hotel, which they call the Holiday House. They also built a small restaurant at the south end of the dam, known as the Casino, and they provided boats and other recreational facilities to attempt to build up the attractiveness of that lake region. The lake itself is really a very beautiful body of water, and there is considerable recreation activity out there in the summer period, even in the late fall.

—3,129—

Q. Now state the total assets, if you will, of the Union Electric Land & Development Company as of a recent date?

A. The property and plant account of the Union Electric Land & Development Company as of September 30, 1940, was approximately $1,940,000.

Q. And is it correct to say that this is a liquidating proposition? A. It is. The intention is to liquidate this property as quickly as it can be done, without unnecessary loss or expense.

Q. Turning now to the St. Louis County Gas Company, will you state the date of its organization and when it became part of the system? A. The St. Louis County Gas Company 7388
and its predecessor have been in the control of the present owner, the North American Company, since its organization in 1904.

In 1912, the present company was formed to take over the assets of the original company, and the entire capital stock of this company, as well as that or the original company, has always been wholly owned by the North American Company.

It has thus been an associated business with the North American group, I mean the Union Electric Group, for about 36 years; that is, it has been under the direct ownership of 7389
the North American Company for that length of time.

Q. Now in order to get an idea of its relative importance and size, will you state as of a recent date the amount of prop-

erty and plant account of the company? A. The company had, as of May 31, 1940, an investment of $9,093,054 in its property and plant account. Its total assets amounted to $9,944,909.

In the preceding 12 months, the operating revenues were $2,378,135.

7390 *Stanley Stokes—By Respondents—Direct*

This company serves the major portion of St. Louis County and has 52,334 customers.

Q. Now state, if you will, the extent of the territory served by the St. Louis County Gas Company? A. The St. Louis County Gas Company serves approximately 62 square miles in St. Louis County, and in these 62 square miles there is located about 250,000 of the county's total population of, roughly, 273,000.

Included in this area served by the Gas Company are
7391 many good-sized cities. In particular, there are 6 towns there, some of which have been previously mentioned in connection with the electric business, but I would like to name them, because they are over 10,000 population, and are important to the St. Louis County Gas Company.

These are Clayton, Kirkwood, Maplewood, Richmond Heights, University City and Webster Groves.

The population varies in those towns from a minimum of about 12,000 to a maximum of over 32,000 inhabitants.

—3,131—

7392 In addition to the incorporated cities, large unincorporated areas are served. Some of these unincorporated areas are rather densely populated. They have a district known as Wellston, just outside of the northeastern city limits of St. Louis, which is more heavily populated than some of the city area just outside the limits, but it does not happen to be incorporated.

Mr. Hamilton: Will the reporter please mark this map for identification as Respondents' Exhibit No. 60?

(The document referred to was marked Respondents' Exhibit No. 60 for identification.)

By Mr. Hamilton:

Q. State, if you will, Mr. Stokes, what this exhibit represents? A. This exhibit represents the territory served by the St. Louis County Gas Company, and shows the extent of their major distribution system, including high-pressure mains, 4-inch and larger. Small mains and small services 7394
are not indicated.

The single-hatched area indicates the territory served by the high-pressure system, and the double-hatched territory in and around the city limits of St. Louis, indicates that served by the low-pressure system.

The heavy dashed lines are the high-pressure mains of 6 inches and larger, and the heavy dotted lines are high-

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pressure mains between 4 and 6 inches in diameter, including all sizes from 4 inches to 6 inches.

Q. Has this map been prepared under your supervision 7395
and have the facts shown been taken from the records of the St. Louis County Gas Company? A. It has been so prepared, and the facts have been taken from the records.

Mr. Hamilton: I offer it in evidence as Respondents' Exhibit No. 60.

Mr. Odell: No objection.

The Examiner: All right, the map of the territory described is admitted in evidence as Respondents' Exhibit No. 60.

7396 *Stanley Stokes—By Respondents—Direct*

(Respondents' Exhibit No. 60 was received in evidence.)

By Mr. Hamilton:

Q. State, if you will, what the trend has been in the business conducted by St. Louis County Gas Company, over a period of years? A. The business of the St. Louis County Gas Company has been consistently increasing, and is at the present time increasing even more rapidly than the popula-
7397 tion.

Q. Than the population of what? A. Than the population of St. Louis County, I should have stated. The population of St. Louis County itself has been previously stated

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to be growing very rapidly, and this Gas Company is exceeding even that rate of growth. I could illustrate this very briefly by a few statistics.

In the year 1910, there were 5,210 customers with 126 miles of main and an annual sales in m. c. f. of 95,000.

7398 By 1920, the customers had increased to 13,569, the miles of main had increased to 286, and the annual sales of gas to 293,000 m. c. f.

For the year 1930, the number of customers had again increased to 38,510, the miles of main to 510, and the annual sales to 1,236,000 m. c. f.

By the year 1940, as of May 31,—this is for the 12 months ended May 31, 1940,—the number of customers has now become 52,334, with 658 miles of main and an annual sales of gas of 2,744,000 m. c. f.

The maximum daily send-out for this same 12 months' period, the highest send-out during that period, is 23,711 m. c. f. That is the highest send-out for any one day.

That is a rather remarkable growth, and very consistent.

The territory which is served by the gas company is largely residential, and the requirements are of that character, but there are included some commercial areas, and a few large industries, not many.

Space heating for residences is of major importance to this company, and they have been very successful in their 7400

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efforts over several years to develop a high rate of house-heating by all of their customers. They do extensive advertising, and they have been very successful.

As of May 31, 1940, the division of customers and their use may be stated as:

Residential customers for ordinary domestic use only—45,138; those customers used 950,335 m. c. f.

Heating customers, including ordinary domestic usage—5,272; and they used 1,595,501 m. c. f. 7401

Commercial customers numbered 1,918, and used 134,464 m. c. f.

There were 4 industrial customers who used 63,271 m. c. f., and 2 street-lighting customers who used 286 m. c. f.

Q. Now may I inquire whether the number of customers you have just given is in each case at May 31, 1940, and whether the amount of gas sold is for the 12 months' period ended May 31, 1940? A. That is correct, the total of that group totals 52,334, which is the figure given for the number

7402 *Stanley Stokes—By Respondents—Direct*

of customers as of May 31, 1940, and the gas sold represents the 12 months ending with that date.

Over 5,000 of the 5,272 customers who used gas for heating, used it for heating residences, so that over 50,000 of the 52,334 total customers are residential customers. The importance of the heating load is very evident, because the

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10 per cent. of the total customers which used heating, used 58 per cent. of all the gas sold.

7403

(Discussion off the record.)

The Examiner: We will recess until 2 o'clock.

(Whereupon, at 12:30 o'clock p. m., a recess was taken until 2 o'clock p.m., of the same day.)

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7404

AFTERNOON SESSION.

(The hearing resumed at 2:00 o'clock p. m.)

Whereupon, STANLEY STOKES resumed the stand and testified further as follows:

Direct Examination by Mr. Hamilton (Continued):

Q. Will you describe briefly the physical properties operated by St. Louis County Gas Company? A. The gas 7406
manufacturing plant of the St. Louis County Gas Company is located at Shrewsbury in St. Louis County, Missouri. It has a capacity of 16,000 m. c. f. per day and the gas has a heat content of 800 B. t. u. per cubic foot. This consists of water gas which has been enriched principally with natural gas purchased from the Mississippi River Fuel Corporation which they convey by pipe line from Monroe, Louisiana.

The plant in which the manufactured portion of the gas is made was originally built in 1911 and has been considerably enlarged as the load developed. Until 1932 the gas manu-
factured and distributed was carbureted water gas contain- 7407
ing 570 B. t. u. per cubic foot. Since 1932 the gas distributed has been, as stated, with a heat content of 800 B. t. u. per cubic foot, being a mixture of manufactured water gas and natural gas.

(Discussion off the record.)

A. (Continued) The gas generating equipment consists of

five water gas sets. I shall not attempt to describe them in

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detail. Each set has the customary auxiliaries, such as blowers, oil handling equipment, automatic and hydraulic controls.

They also have facilities for cleaning the manufactured gas, including purifying condensers and Cottrell precipitators as well as the oxide purifier.

Manufactured natural gases are stored in a holder, the capacity of which is 4,500,000 cubic feet. An additional holder which is under construction will be in service some-
7409 time during this month, sometime in November and will have a capacity of 5,000,000 cubic feet. Manufactured gas is withdrawn from the storage holders and pumped through the mixing plant with reciprocating compressors with pressures varying at 12 to 45 pounds, depending on the demand.

The compressor plant consists of seven single stage, dual acting, twin cylinder compressors having a total capacity of 1,414,000 cubic feet per hour at 40 pounds pressure. The compressors are driven with either steam engines or electric motors. The normal method of operation is largely by electric motor, having a total of 2,845 horsepower.

7410 As the compressed gas passes through the mixing plant it is mixed with the high pressure natural gas. Each gas is automatically proportioned by a means of Smoot regulators, so that the resulting mixture has a heating value of 800 B. t. u. per cubic foot regardless of the variations in the heating value of either the natural or the manufactured gas.

—3,138—

The operation of the regulators is automatically supervised by a Thomas calorimeter.

After leaving the mixing plant, the gas is passed through a 50,000 cubic foot spherical tank to further insure uni-

formity of the mixture before it reaches the distribution mains. Just before passing into the distribution mains the gas is conditioned by fogging with oil and hydrating with steam to prevent deterioration of the inside of the mains and the meters. Also, sufficient odor to enable a detection of gas leaks is imparted to the gas just ahead of the mixing operation.

Steam for the operation of the gas works is generated in the boiler plant which has a rated capacity of 1,395 boiler horsepower in four boilers, two of which are fired with either 7412
natural gas or oil and two with coal.

This boiler plant is augmented by a total of 610 boiler horsepower from waste heat boilers, on the water gas sets. Power is obtained from the Union Electric Company of Missouri through a 750 k. v. a., 13,200 volt sub-station, that part being 25 cycles. Sixty-cycle power is obtained directly at 4,000 volts for a 700 horsepower compressor and through a small sub-station for miscellaneous uses.

The distribution system, itself, consists of 118 miles of cast iron low pressure mains and 540 miles of high pressure steel mains, 595 miles of services and 55,289 meters. The 7413
—3,139—
distribution mains are divided into two parts, one being the low pressure grid of 118 miles of cast iron pipe which ranges in size from four inches to 20 inches, covering a strip of territory immediately outside the city of St. Louis and indicated on Exhibit 60 by the cross-hatched area.

The other part of the system consists of high pressure mains totaling 540 miles of steel and wrought iron pipe in sizes from an inch and a quarter to 12-inch, which surround, more or less, the low pressure area and which extend to the

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more remote parts of the territory. On the exhibit the smaller pipe was not attempted to be shown; nothing here below four inches was indicated.

In the low pressure part of the system gas is carried at pressure suitable for direct delivery to the customer's appliances, normally five inches of water column. The pressure carried in the high pressure system varies from 12 or 15 pounds to as high as 45 pounds per square inch, depending on load requirements, and is reduced to five inches of water
7415 column by governors located on the customer's premises.

All of the gas sent out from the plant is pumped into the high pressure system and the low pressure grid is applied from it through district regulators located at 13 points throughout the grid.

At three outlying points on the high pressure system there are high pressure storage holders, each of 50,000 cubic foot

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actual volume. Those are large spherical balls. They are like a balloon when you see them from a distance.

7416 In the low pressure section services are mostly of inch and a quarter steel pipe with a total length of 157 miles, and in a high pressure area, they are usually three-quarter inch steel pipe with a total length of 438 miles.

As of May 31, 1940, the company had 55,289 meters installed of which 52,367 were active.

The general office building, which houses the St. Louis County division of the Union Electric Company of Missouri, as well as the gas company, is located at Webster Groves. It is a two-story structure containing 44,200 square feet of floor space of which 30,300 are used for office purposes, the

remainder being occupied by store room, meter stops and a garage.

By Mr. Hamilton:

Q. That building is the property of the St. Louis County Gas Company? A. That is right.

(Discussion off the record.)

The Witness: There are store room facilities at three locations, garage facilities at four locations, sales offices are maintained at five locations for the convenience of the customers where they can have the service turned on or off or pay bills or purchase merchandise. 7418

—3,141—

By Mr. Hamilton:

Q. Now, is the demand imposed upon the gas system uniform throughout the year or does it fluctuate? A. It fluctuates widely because of the extent of the gas residential house heating. Over half of the gas sold is for space heating for residences and the demand for that, of course, is a function of the temperature and is very heavy on cold winter days. In the past winter, the maximum daily sendout was 23,711,000 cubic feet compared with the 1939 summer minimum daily send-out of 2,727,000 cubic feet. The average daily send-out in 1939 was 6,867,000 cubic feet. Such wide fluctuations on the system are handled by varying the pumping pressures to suit the load conditions. 7419

This advantage is derived from the adoption, years ago, of the high pressure system of distribution in which this company was one of the pioneers. If the conventional low

pressure system of relatively larger cast iron pipe were used throughout the territory, a large increased investment would be required to provide larger mains which would be needed for the most part only to carry the winter load on those very few cold days which occur each winter. That is, a high pressure system is much better adapted for house heating service where the variation in the load is a large percentage.

At the manufacturing plant these fluctuations are met by simply starting up or shutting down the water gas sets as re-

7421 —3,142—

quired. These sets can be started up on relatively short notice and can be shut down with moderate standby losses, so that the plant, as a whole, was designed to fit nicely the demands and requirements of gas house heating.

Q. You have indicated that natural gas is mixed with the manufactured product. Has provision been made in the system for operation in the event of failure of the natural gas supply? A. Yes, there is always a possibility, although rare, that the natural gas line may be disturbed or the supply of gas shut off. For such emergency the reserve of natural

7422 gas and manufactured gas is stored in holders to meet temporary shortages and there are other provisions. Also, there is a store of 410,000 gallons of gas oil which can be gassified in the gas-making machines to enrich the manufactured blue gas, which is the carbureted water gas, should the natural gas fail. By this means a portion of the natural gas in the mixture distributed can be readily reduced from about 75 per cent. to about 45 per cent., thus making the available storage of natural gas last longer. Even without any natural gas, the oil-enriched manufactured gas alone could be distributed in an extreme emergency.

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In addition to that, 160,000 gallons of butane are kept on hand at all times to be used as stand-by in the event of long interruption in the supply of natural gas. Butane is a gas which is a liquid at ordinary temperatures and at a pressure of around 30 or 40 pounds and you can keep it in cylinders. It evaporizes readily into a gas and this quantity

—3,143—

has equivalent heat content of 16,890,000 cubic feet of natural gas.

7424

By making certain changes in the production of the water gas and using butane as an enricher, a resultant mixture satisfactorily substitutes for a normal mixture which is distributed. Further supplies of butane can be quickly obtained by rail if required.

As an example, in the eight years of operation with natural gas there has been one pipe line failure due to a washout and it required 12 hours to repair. In the meantime, the natural gas remaining in the pipe line between the break and the plant, together with the local storage, sufficed to continue operations on a normal basis without using any of these other stand-by facilities.

7425

Q. Has St. Louis County Gas Company kept abreast of developments in the gas transmission and distribution service? A. The St. Louis County Gas Company has not only kept abreast of developments, but I believe it is a correct statement that they have been in the forefront of developments and have even pioneered in the extensive use of the small diameter steel pipe. This carries gas at higher pressures right to the customer's premises and some of it was used when the company first started operations in 1904. The

territory then was sparse and we had very few customers per mile of main, and even now there are only about 80 customers per mile of main so that the customer density is not

—3,144—

very high.

The present low pressure grid serves 153 customers per mile and the high pressure 63 customers per mile of main, the lower cost, small size high pressure pipe results in a substantially lower investment per customer, where it is
7427 most needed to make gas available economically in the more sparsely settled areas.

There are many areas in St. Louis County where, if it had been necessary to extend the low pressure cast iron system, it would not have been economical to do so, and if the customer had obtained service it would have been at higher cost.

When the natural gas was made available to the St. Louis district, the gas company very promptly took advantage of it and began to use it. Savings resulted in both production and distribution costs and were passed along to the customer in reduced rates for all classes of service. The reduction in
7428 rates for gas house heating applications has brought that cost down to where it is within the economic reach of over 10 per cent of the residence customers. That is a very high use of gas house heating.

The use of the water gas method of manufacturing was adopted in the construction of the original plant as well as in its extensive additions since that time, largely because of its recognized greater flexibility to meet rapidly changing conditions. Consequently, when it became necessary to provide an emergency stand-by against interruption of the

—3,145—

natural gas supply, this plant has a very low operating cost and meets the stand-by requirements exceedingly well.

Coke oven plants or other types of plants are difficult to shut down and start up quickly and they must be kept in fairly continuous operation.

The water gas plant can use various fuels, too, such as gas, oil, butane and so forth.

Q. Will you characterize the service rendered the customers by the St. Louis County Gas Company? A. The St. Louis Gas Company is a very modern and efficient company 7430 and gives the customer a very high grade service in all respects. The personnel of the company are highly trained and it is a wide-awake, active, up-to-date company.

The effect of the gas house-heating has been to produce a large winter peak, whereas in the early days of the company's operation the peak used to occur in the summer when people were putting up fruit.

The high pressure system also makes it simple to maintain adequate and uniform pressures throughout the district. They have modern equipment for cleaning the gas and the care with which it is reduced eliminates almost entirely the 7431 naphthalene which sometimes has a tendency to stop up the pipes, but there is very little of that in this gas. The gas, itself, is also comparatively dry, free from water vapors. They have a tendency to freeze in extremely cold weather.

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That phase of this dry gas has been improved by the use of the natural gas. It is better than it used to be before they used the naphtha gas.

Q. Is the gas service supplied by the company confined to St. Louis County? A. It is.

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Q. It does not reach into the City of St. Louis, proper? A. No, it does not.

Q. Will you indicate, very generally, the nature of the rates charged and, if you are able to do so, make any comparison of rates? A. The rates are, in general, low. The cost per thousand cubic feet used by the average customer for ordinary domestic purposes is lower than it would be in the city for the same class of service.

Q. Now what city are you referring to? A. The City of
7433 St. Louis. They would be about 20 per cent. less than they would for that same class of service in the city. Such a customer in St. Louis County uses 1880 cubic feet per month, which costs $2.18. In the city this same amount of gas would cost $2.63. The average rate received per thousand cubic feet sold for all purposes in 1939 was 28 per cent. greater in St. Louis than in St. Louis County.

Q. Now, you are making a comparison, are you, with the

rates of St. Louis County Gas Company? A. I am comparing St. Louis County Gas Company when I say "in the
7434 county" with city rates.

The average rate per thousand cubic feet for residential gas, including house heating, for the year 1939 was $.8892, approximately 89 cents. The commercial rate was just slightly under $1. There is not a large or extensive commercial sale in St. Louis County. The industrial rate is 60 cents per thousand cubic feet. These rates apply to the 800 B. t. u. gas.

Q. Of St. Louis County Gas Company? A. Of St. Louis County Gas Company and the comparison was on a similar

gas in the city. The relations between the St. Louis County Gas Company and their customers have been very friendly and I think extremely interesting over the last many years. For example, in 1917 to '18, during the early period of the first World War, prices of all things entering into the manufacture of gas were increasing very rapidly.

The company applied for relief and was granted a 10 per cent. increase in rates by the Public Service Commission, Missouri Public Service Commission. Subsequently, a committee appointed by it was known as the League of Municipalities, being a group of the cities in St. Louis County, representatives of the various municipal authorities and including representatives of the county court, examined at the request of the gas company the company's accounts in detail and agreed that a further increase was in order. 7436

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Now, this was being done by the customers, themselves. The League then agreed to higher rates which the company proposed and filed with the Commission, whereupon the Commission authorized the increase. This League had been very successful in its relations with the accounting interests of all kinds and was kept in operation and continued to cooperate with the officials of the St. Louis County Gas Company, with the result that for over 20 years such negotiations have been carried on and the League was presented with the facts, and as fast as possible the rates were again reduced by the same process until today they are 17½ per cent. less on an equivalent heat basis than they were before the first World War. 7437

The League each year kept informed concerning the results of the company's operation, revenues and expenses and

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interest in gas property through a committee of the League, appointed for that purpose.

Q. Are the sales of gas actively promoted by the company? A. Very actively. The company has an active sales force and they do extensive advertising, even doing billboard advertising at times when conditions are right to promote the sale of house heating gas most actively.

They sell gas for cooking, water heating and refrigeration, residence refrigeration, the gas refrigerator being a
7439 very reliable and successful device.

—3,149—

In St. Louis County the water rates are rather high and the development of the air-cooled gas refrigerator was made to assist us in this phase of the promotion work. Primarily the company goes after the residential business because that is the main thing they have to deal with.

Q. Does it engage in the sale of gas appliances? A. It does. They push the sale of the appliances through their five appliance stores and also by special appliance salesmen engaged in field work. In 1939 there were 1,846 gas consuming
7440 appliances sold by the company. We have no record available as to how many such appliances may have been bought outside, but there must have been a good many. That 1,846 was divided into various different types of appliances. There were 710 ranges, 608 water heaters, 214 refrigerators, 123 space-heating devices, gas furnaces, and 47 miscellaneous domestic devices and 144 miscellaneous commercial and industrial devices.

Q. Now, state the capitalization of the company as of recent date. A. The capitalization of the company as of September 30, 1940, was $4,100,000.

Q. In what class of stock? A. That is in common stock.

Q. Now, go through the rest of the capitalization as of the same date. A. The first mortgage 5 per cent. bonds represented $1,500,000 and a surplus of $2,322,647, making a

—3,150—

total as of that date of $7,922,647.

Q. State, if you will, the provisions maintained for depreciation. A. The reserve for depreciation for the last 20 years has not been less than 12 per cent. of the depreciable property. At the present time it is higher than that. 7442

Q. What is the current rate? A. The current rate of depreciation is 17.4 per cent.

Q. Are you able to state the coverage of earnings with respect to bond interest? A. In 1939 earnings available for bond interest after provision for depreciation, amortization of debt discount and expense and miscellaneous deductions, was $527,438 or over seven times the interest requirements.

—3,151—

Q. Has the company ever defaulted on the payment of interest on any of its obligations? A. No, it has not.

Q. It has no preferred stock outstanding? A. No. it has 7443 not.

Q. Is the property of St. Louis County Gas Company operated jointly with the electric property of the Union Electric Company of Missouri in St. Louis County? A. Yes, in every possible respect the operations are carried on jointly. The officers and department heads of the gas company hold the same or similar positions with the electric company; the president, the executive vice president, the two vice presidents, the secretary, the treasurer, the comptroller hold the same or similar positions with the electric company.

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Certain department heads of the electric company, such as the general store keeper and superintendent of supply service serve in the same capacities for the gas company. In the St. Louis County organization the various department heads and their operating staffs, such as auditor, engineer, sales manager, superintendent of distribution and superintendent of transportation function for both companies. Their functions are conducted jointly on most all of the operations. A little thought will illustrate the fact that a large
7445 percentage of the total operations for the electric and gas companies are identical. I can mention a list of those.

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Q. You might illustrate the point, if you will. A Well, briefly, the applications for service, turning on and off service, meter reading, billing, credit approvals, adjustment of customer accounts, collections, sales activities, operation of branch stores, receiving customers' payments, trouble service, keeping records of connections, engineering estimates and plans for extensions, maintenance of engineering records, obtaining permits and rights of way, maintenance of
7446 automotive equipment, telephone facilities, stenographic service, mail service and many other items including purchasing, stores, accounting, real estate, handling of real estate, taxes; in other words, the two systems are operated just as though they were owned by one company. This type of joint operation saves a considerable sum of money each year as compared with what it would have cost had the gas company been operated independently from the electric company.

Q. Now, can you illustrate the savings that arise out of such joint operation and indicate their approximate extent? A. Well, to illustrate the nature of the work that provides such savings, the meter reader, when he goes from house to house to read the meter, reads the gas meter at the same time and eliminates duplicate meter readers.

In the case of a customer moving to a new address, he will make but one telephone call; one clerk has both gas and electric problems.

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The branch officers of stores are maintained at various places, and the customers can conduct all of the functions of both the gas and electric operations at the same time without additional effort, so in addition to the financial savings or economies which are made, it is really a matter of considerable convenience to the customers, themselves.

The estimated savings may be briefly stated as, sales department, due to joint operation of five sales offices, $58,000. These are estimated annual savings per year.

In the accounting department, at total of $43,500. These are due to some of the things I have mentioned, for example, 7449 the joint reading of meters was estimated to save $19,600, and so forth.

The treasury department, a saving of $9,600; the distribution department, a saving of $33,300; the engineering department, $20,700; store rooms and garages, which include a large number of items, $37,900; purchasing expense, $6,000; general office facilities due to the rental savings from joint occupancy and the savings from joint heating and combination janitor, telephone service, and so on, $21,000; the total of the items just mentioned is $230,000 a year.

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Now, those estimates have been made up carefully from a number of small items and do not include any savings as a result of combined executive salaries and expenses which, undoubtedly, do exist and it is reasonable to assume that there were other minor savings that had not been listed, so that the annual saving should be and is something in excess

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of $230,000 per year.

There are many little things that mean a good deal to
7451 the customers. I have already mentioned the conveniences in paying their bills at one location and, incidentally, either electric or gas will receive the payment. They are both billed and then they exchange the money and straighten out the account later. The customers save a considerable amount of postage by that method. It is estimated that this may amount to as much as $7,500 per year for the customers.

These combined operations with resulting economies are what make possible, to a large extent, the low rates at which the gas is sold. There isn't anything particularly different about distributing gas than there is about distributing elec-
7452 tricity. You have to use the streets, they are both delivering a service instead of a commodity, and their methods of doing business are necessarily the same.

Whenever two such businesses are operated jointly, there is naturally a saving in the combining of their functions. Moreover when the operations of two properties are combined the increased volume of work permits the use of high-salaried and more experienced personnel and then dividing the expenses.

In apportioning these expenses between companies, there is no profit or overhead expense added, and in distributing

material from the store rooms, the usual store's charge, which is calculated at cost, is made to the gas company in exactly the same manner that is made by the electric company. There

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is no profit, in any sense of the word, added to the distribution of these joint expenses.

The chief beneficiary in the long run from such economies of joint operation is the public who gets the savings reflected in their rates and the quality of service.

Q. During your testimony you have given us a number of 7454
examples of joint operation among the various companies, including the St. Louis County Gas Company and Union Electric Company and its subsidiaries. I don't want you to repeat the instances of joint operations or inter-relationships which you have already given, but I do want you to illustrate now, if you will, other instances which occur to you with respect to all of the companies. A. Well, I shall attempt to make this comparison and the example of joint operation as briefly as I can and still go straight to the point.

Of the number of buildings throughout the system that 7455
are used jointly, as a matter of interest, you have the General Office Building of the Union Electric Company of Missouri at 12th and Locust Streets in St. Louis which houses the general business offices for Union Colliery Company, St. Louis and Belleville Railroad Company, St. Louis and Alton Railway Company and the steam-heating business in the city of St. Louis. All of the various building facilities such as water, light, heat, refrigeration and telephone are, likewise, used by all of these companies.

—3,156—

The general office building of the St. Louis County Gas Company houses the headquarters of the St. Louis County Division of the Union Electric Company of Missouri and the outlying divisions of the same company, as well as the offices of the treasury, sales, distribution, engineering and accounting departments of the St. Louis County Division of the Union Electric Company of Missouri.

The building which adjoins the general office building of the St. Louis County Gas Company in Webster Groves houses
7457 the meter shops for both the St. Louis County Division of the Union Electric Company of Missouri and the St. Louis County Gas Company.

In a like manner the general store room at 19th and Gratoit Streets and the Page Avenue store room in St. Louis County, both belonging to the Union Electric Company of Missouri, are used by it and the St. Louis County Gas Company.

Also, the store room of the St. Louis County Gas Company at Shrewsbury is used by the Union Electric Company of Missouri. Four garages in St. Louis County are used by
7458 Union Electric Company of Missouri and the St. Louis County Gas Company jointly. These, by the way, are extensive buildings and facilities. They are not just small garages. They house a large group of transportation equipment and they are permanent and rather extensive modern buildings. The chief ones are the Page Avenue garage which belongs to the Union Electric Company, the Webster Groves garage

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that belongs to the gas company, the Moody Avenue garage of Webster Groves, which is rented, and the Shrewsbury garage which belongs to the gas company.

There are four branch offices in St. Louis County jointly operated by the Union Electric Company of Missouri and the St. Louis County Gas Company. Those are located in Wellston, University City, Maplewood and Luxemburg. In addition both companies, as previously stated, maintain their general business offices in the gas company's building at Webster Groves.

At Keokuk, Iowa, the common office, common garage and store room are used by both the Iowa Union Electric Company and the gas business at Keokuk, which is also conducted 7460
there.

At Alton, Illinois the Union Electric Company of Illinois there have their facilities in common with the gas company which they operate.

The Lakeside Light and Power Company at Lakeside, Missouri and the Union Electric Land and Development Company have common offices and store rooms at Lakeside and are under common management.

I have previously mentioned the economy of combination use of the Ashley Street Power House and steam-generating facilities which are used both for the steam service as well as 7461
for power developed. The transportation equipment of the Union Electric Company of Missouri also handles all the work of the steam department. The Union Electric Company of Missouri does delivery work and delivers appliances to cus-

tomers and handles material between store rooms and takes care of the requirements of these various divisions, including the St. Louis County Gas Company, in the same manner that it handles its own work.

7462 The same facilities and equipment are used in salvaging material removed from the properties of the various companies as are used by Union Electric Company of Missouri, that is, the same facilities which they use for their own salvage operations are used for the other companies.

Union Electric of Illinois, St. Louis County Gas Company, Union Colliery Company, St. Louis and Belleville Electric Railway Company, their passenger cars, trucks, trailers, and so forth, are all used each for the other as well 7463 as for themselves. For example, when a fire occurred in a cable duct in downtown St. Louis a year or so ago, all of the air compressor equipment, a number of trucks and passenger cars of the gas company were immediately sent to St. Louis and were of considerable aid in restoring conditions to normal.

In St. Louis County all billing machines, mailing machines, addressing equipment and other office machinery, furniture and equipment are used jointly by the Union Electric Company of Missouri and the St. Louis County Gas Company. Likewise, at Alton, Illinois and Keokuk, Iowa 7464 joint use is made of the general office equipment and similarly at Lakeside the Union Electric Land and Development Company and the Lakeside Light and Power

Company make joint use of such equipment.

The Union Electric Company of Missouri maintains an automobile mail delivery service which connects its main office with the various branch offices, store rooms, sub-stations and so on. This same mail delivery service is extended to the St. Louis County Gas Company and the Union Electric

Company of Illinois, which avoids a considerable amount of duplication and an unnecessary expense.

The Union Electric Company of Missouri maintains a photostat and printing equipment which is made available to all the subsidiary and associated companies, which allows them to get such service at lower cost than they would have if they had to provide it for themselves.

The Steam-heating Division and the St. Louis County Gas Company have frequent occasion to make excavations for working on the mains or installing new mains and the equip- 7466
ment of the underground crews of the Union Electric Company of Missouri is used for that as well.

—3,160—

Q. I think you have already indicated that certain executive officers acted in common for the various companies. Will you be a little more specific in amplifying that comment? A. Dr. William McClellan, Mr. E. T. Gushee, and Mr. John A. Woodbridge, president, executive vice president, and vice president, respectively, of Union Electric Company of Missouri, hold the same position in the various subsidiaries and affiliated or associated companies, and direct the busi- 7467
ness of all of this group of companies.

The smaller companies in the group consequently benefit from having available the same executive direction as the main company, the Union Electric Company of Missouri.

There are other officers of the Union Electric Company of Missouri who hold similar position, or carry out similar functions for the other companies. I can mention a few of these.

Mr. F. J. Meistrell, secretary; Mr. John L. Ganz, treasurer; Mr. A. H. Schlettler, comptroller—serve in the same

capacity for virtually all of the group of companies, that is they have that position in the Union Electric Company of Missouri, and they have that or an equivalent position in each of the other companies.

Centralization of the functions of these corporate officers provides a greater uniformity of methods and practices, and the smaller companies and businesses benefit therefrom.

—3,161—

7469 Q. Are accounting procedures in the various companies directed by the Union Electric Company of Missouri? A. Yes, the Union Electric Company of Missouri has the major accounting personnel, and they direct the accounting policies for the other companies, and make special accounting studies necessary for obtaining adequate accounting control, and they assist in setting up accounting methods so as to have available information needed for the various regulatory authorities, which information is continually required.

They obtain uniformity by such centralization, and they do most of that work under the general direction of the general auditor of the Union Electric Company of Missouri.

7470 It is necessary to have available adequate records of the property of the various companies, and to keep the records up to date as to property additions and removals for not only the Union Electric Company of Missouri, but for all of the subsidiaries and related companies.

That work is all under the direction of the valuation auditor. That provides for uniform methods and gives the benefits to the smaller companies of a high grade personnel.

In the preparation of financial reports, reports to regulatory authorities, and the maintenance of the records of a

statistical nature, this work is done for all the companies under the direction of the fiscal and statistical auditor of Union Electric Company of Missouri. To provide adequate

—3,162—

information for the management so as to maintain the proper control of the finances of the company, budgeting of construction expenditures, the accounts affecting income and the cash requirements of all the companies are handled by the budget auditor of the Union Electric Company of Missouri. 7472

General supervision of accounting procedures and methods for the various companies is centralized in the operating auditor of the Union Electric Company of Missouri.

Income tax and related tax matters of all subsidiaries and associated companies are handled by the tax supervisor of the Union Electric Company of Missouri.

Q. I think you have already mentioned, have you not, the centralized purchasing agency which acts for all of the companies? A. Yes, that has been described in some detail.

Q. And also the centralized stores procedure which similarly acts for all the companies? A. That has also been described. 7473

Q. Is the engineering personnel of the various companies available to each company in the group? A. It is, and I think that is of considerable importance because it would not be practicable for these smaller companies to maintain an extensive engineering organization with high class personnel which would be too expensive to maintain for such

—3,163—

small companies, as many of these are.

7474 The way the matter is actually handled is that the mechanical engineers in the electric business—for example in the Union Electric Company of Missouri, the men who are responsible for not only the mechanical construction, but the mechanical operation—those engineers, with their knowledge of steam production and utilization, are used by the steam heating business for its engineering problems, and in giving engineering advice to its customers; and the electrical engineers of the Union Electric Company of Missouri, en-
7475 gaged in the electric business, are in a position to give engineering advice to the electric railway, coal mining, steam heating and gas businesses.

For example, my department just recently completed the design and pursued to its completion the construction, of a 3,000 kilowatt portable railway sub-station.

We also made a number of layouts and studies for the safety operation of the underground electric haulage in the mine.

Within a year, or such matter, we specified and supervised the purchase of a motor generator set for the mine. At
7476 that time the mine had been given to understand that the thing they should put in was a mercury arc rectifier. A little engineering and economic study of the problem showed that that was not suitable for their purpose.

—3,164—

So that I could make a long list of examples to show the use of the various engineering facilities in and by the different companies.

The St. Louis County Gas Company has to have high grade engineers who are skilled and experienced in the pro-

duction and distribution of gas, and the services of those men are available to the gas business at Alton and at Keokuk, the first being under the direction of the Union Electric Company of Illinois, and the second under the direction of the Iowa Union Electric Company.

We recently completed the design, including detailed drawings for a sub-station of the Iowa Union Electric Company at Ft. Madison, where they were putting in frequency changers and completely changing the distribution system to convert the town from 25 cycles to 60 cycle service. 7478

Q. When you say "we" who do you mean? A. My own immediate department.

Q. In the Union Electric Company of Missouri? A. Which functions for the Union Electric Company of Missouri.

In such operations we keep an accurate check of the hours worked on that project, and all the men that report to me distribute their time exactly as worked. My time is not distributed in exactly that manner, but on a fixed and equitable basis, adjusted each year based on the amount of 7479

—3,165—

business done for the different companies. No profits of any kind, or overheads, are added.

Q. Are property tax matters for various companies centralized in one department? A. Yes, the property tax matter has been previously mentioned, but I could explain that the returns of property for taxation, appearances before tax authorities, studies of tax equalization, and related tax matters for all of the companies, are centralized in a real estate

and tax department of the Union Electric Company of Missouri.

—3,166—

Q. Are real estate transactions similarly centralized in one department? A. They are, the real estate department of the Union Electric Company of Missouri.

They advise and take care of the real estate problems for the other companies.

7481 We just recently had quite a little series of problems at the new Venice plant site where certain easements ran through the site, and were set apart for the levee board, giving them a right to maintain levees in certain locations; in addition to which, there were some early street easements, and a further complication by reason of the fact that at one time boats used to land at a regular landing at that point, and the people going to and from the boats had crossed the property for some years. It was necessary to clear up all of these matters before the plant building could be located and work started.

7482 The real estate department was of particular help to the Union Electric Company of Illinois in that work.

Q. Does the research department of the Union Electric Company of Missouri perform services for, and is it available to, the other various companies? A. It does. The research department of the Union Electric Company of Missouri is essentially an economic research department. I mean economic as distinguished from a research department which would be working with laboratory equipment.

—3,167—

They make business studies and investigate personnel problems, analyze any means of improving economies or bettering the operating method.

That department is available to all companies, and functions primarily for the larger company, the Union Electric Company of Missouri, but is called in for various types of studies, and charges, of course, only the cost of the work.

Q. How about the Director of Industrial Relations of Union Electric Company of Missouri? A. We have mentioned him previously several times in a little different connection, but he functions for all of the different groups of companies and maintains an employment office in the general office building at St. Louis, and carries on employment activities for the Union Electric Company of Missouri, the Union Electric Company of Illinois, and the St. Louis County Gas Company. 7484

He does not maintain employment offices at the other places because they are very small, but he carries on the operation.

The centralization of these various functions performed by the Director of Industrial Relations naturally results in a more accurate compliance with employment laws, a greater uniformity of personnel policies, and a lower cost of performing these various functions—all of which primarily benefit the smaller companies in the group. 7485

Q. Is there a chief hydraulic engineer for the Union Electric Company of Missouri, and if so, does he perform

services for any of the other companies? A. Yes, Mr. Davis has previously been mentioned. He is the chief hydraulic

engineer. He was mentioned in other connections such as the development he made on governors and so on.

He does function for the Mississippi River Power Company and for the Union Electric Company of Missouri, handling the hydraulic operation for both the Bagnall Dam and the Keokuk power plant.

Without that joint operation it would be necessary to have two men of a caliber equal to that of Mr. Davis, because either operation requires the same skill, experience and
7487 ability. With that one man handling the whole hydraulic work for both companies, he is in better touch with the situation at all times.

Mr. Hamilton: I believe that is all at this time, Mr. Examiner, from this witness.

If I understand correctly the cross-examination of Mr. Stokes is scheduled for tomorrow.

(Off the record discussion.)

Mr. Odell: Mr. Examiner, I would like to have this hearing continued until two o'clock tomorrow afternoon, at which time I hope to be prepared to cross-
7488 examine Mr. Stokes.

The Examiner: All right, we will continue the matter until two o'clock tomorrow.

(Whereupon, at 3.20 p.m. the hearing was recessed until 2 p.m. of the following day, Thursday, October 31, 1940.)

7489

BEFORE THE

Securities and Exchange Commission

Docket No. 59-10

IN THE MATTER

of

THE NORTH AMERICAN COMPANY, *et al.*

7490

Hearing Room 1102-A,
Securities and Exchange Commission Bldg.,
Washington, D. C.,
Thursday, October 31, 1940.

Met, pursuant to adjournment, at 2 o'clock p.m.

7491

Before: W. W. SWIFT, *Trial Examiner.*

Appearances:

S. PEARCE BROWNING, JR., and CHARLES S. HAMILTON, JR., of Sullivan & Cromwell, 48 Wall Street, New York City, Attorneys for the Respondents.

RALPH C. BINFORD and HERMAN ODELL, Attorneys for the Securities and Exchange Commission.

—3,170—

7492 *Colloquy*

PROCEEDINGS

The Examiner: The hearing will come to order.

Mr. Odell: Mr. Examiner, at this time I am not prepared to cross-examine Mr. Stokes.

I find that in view of his lengthy testimony, and the technical nature of the testimony, that I need more time to prepare my cross-examination.

I therefore will not be prepared to cross-examine him this
7493 afternoon, and will not be prepared to cross-examine him tomorrow morning. I will be prepared to cross-examine him any time after Saturday of this week.

Mr. Browning: We are both surprised and disappointed with the statement by Commission counsel in view of the previous discussion and the clear understanding that cross-examination of Mr. Stokes would take place today.

We are really inconvenienced, and I will not insist upon our strict rights only because I am unwilling to put the Commission's staff in a position which they insist will be disadvantageous to them.

7494 I must say for the record, however, that in view of the position which we are taking today, that we will hereafter expect a similar attitude on their part.

Under the circumstances, it would seem that the only practical step to take would be to adjourn until Thursday, November 7, at which time we will be prepared to put another St. Louis witness on the stand.

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It is my understanding that Commission counsel will endeavor at that time to give us their views as to whether

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they will desire to cross-examine Mr. Stokes, so that if so, he can then be recalled for the next session.

The Examiner: Very well, this matter is now continued until Thursday, November 7, at 10 a.m.

Mr. Odell: I want to add this. I don't think it is unreasonable to ask to have two or three days to prepare to cross-examine a witness like Mr. Stokes, whose testimony was quite voluminous and quite technical in nature.

7496

I think that we have always cooperated with Mr. Browning in all of his requests for continuances, and we have always acceded to his requests for additional time to prepare his next witness for direct examination.

Mr. Browning: In that connection, Mr. Examiner, our only objection whatever to the delay has been because of the necessity of Mr. Stokes returning to St. Louis for his own business reasons. We would be only too glad to give any amount of time for cross-examination of any witness, if the business aspects permitted.

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Mr. Odell: I fully appreciate Mr. Stokes' position here, and I don't want to inconvenience him in any way. I have tried as hard as I could to accommodate Mr. Browning and Mr. Stokes, and have attempted to be prepared to cross-

—3,172—

examine him this afternoon, but I find that that is impossible.

The Examiner: All right, we will continue the hearing until the time I have indicated.

(Whereupon, at 2:05 o'clock p.m., the hearing was continued until 10 o'clock a.m., Thursday, November 7, 1940.)

—3,173—

CLERK'S COPY.

Vol. VII

TRANSCRIPT OF RECORD

Supreme Court of the United States

OCTOBER TERM, 1942

No. 721

THE NORTH AMERICAN COMPANY, PETITIONER,

vs.

SECURITIES AND EXCHANGE COMMISSION

ON WRIT OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE SECOND CIRCUIT

PETITION FOR CERTIORARI FILED FEBRUARY 10, 1943.

CERTIORARI GRANTED MARCH 1, 1943.

United States Circuit Court of Appeals

FOR THE SECOND CIRCUIT

October Term, No. ——

THE NORTH AMERICAN COMPANY,

Petitioner,

v.

SECURITIES AND EXCHANGE COMMISSION,

Respondent.

TRANSCRIPT OF RECORD

TESTIMONY

Volume VII

(Pages 2500 to 2871)

ON PETITIONS FOR REVIEW OF ORDERS OF SECURITIES AND EXCHANGE COMMISSION

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7498

BEFORE THE

Securities and Exchange Commission

Docket No. 59-10

IN THE MATTER

of

7499 THE NORTH AMERICAN COMPANY, *et al.*

Hearing Room 1101,
Securities and Exchange Commission Bldg.,
Washington, D. C.,
Thursday, November 7, 1940.

Met, pursuant to adjournment, at 10:10 o'clock a. m.

7500

Before: W. W. SWIFT, *Trial Examiner.*

Appearances:

S. PEARCE BROWNING, JR., and CHARLES S. HAMILTON, JR., of Sullivan and Cromwell, 48 Wall Street, New York City, Attorneys for the Respondents.

RALPH C. BINFORD, Attorney for the Securities and Exchange Commission.

PROCEEDINGS

The Examiner: The hearing will come to order.

Mr. Hamilton: Mr. Michel!

Whereupon, CHARLES E. MICHEL, called as a witness on behalf of the Respondents, being first duly sworn, was examined and testified as follows:

Direct Examination by Mr. Hamilton:

7502

Q. Will you give the reporter your name and address? A. Charles E. Michel, 5720 Julian Avenue, St. Louis, Missouri.

Q. Please state your present connection with Union Electric Company of Missouri? A. I am vice president in charge of sales.

Q. And explain, if you will, the duties and functions which you perform? A. As vice president in charge of sales, it is my duty to formulate the sales promotional plans, to organize and control the sales department, to put into effect the promotional plans that are designed by the men under 7503
my direction, and to handle the service to the customers, including dealings directly with the customers in connection with the securing of contracts, and clearing up any of the difficulties that may arise between the company and the customers.

—3,175—

Q. Those services extend to the entire Union Electric Group, do they not? A. Yes, sir; they do.

Q. Will you describe briefly your career with the Union Electric Company of Missouri? A. I entered the service of

the company in 1907 as manager of the electric automobile department; in 1913 I was appointed manager of the appliance department; in 1916 I was appointed manager of office sales; in 1918, acting sales manager; in 1919, sales manager —at which time I was also assigned to organize and develop the merchandising business for the Milwaukee Electric Railway & Light Company. I continued in the dual capacity until 1924, at which time I gave up the Milwaukee work; and in 1935 was elected vice president in charge of sales.

7505 Q. Now if you will, please state your education? A. The early part of my education was in the private schools in St. Louis where I was born. Then, from the 8th grade into the high schools, I attended the public schools of St. Louis. Then I took special courses in mathematics and chemistry, and afterwards entered the Virginia Military Institute at Lexington, Virginia, and graduated from that in the engineering course.

Q. You were born in St. Louis, were you not? A. Yes,

—3,176—

sir; I was.

7506 Q. And you have lived there practically all your life? A. Yes.

Q. During the course of your services with the Union Electric Group, have you received any award of any character? A. Yes, sir; I have. In 1933, I received the James H. McGraw Award for Cooperation. Do you care to have me give the citation of that award?

Q. Give it in substance, very briefly. A. Very briefly, it is:

"In recognition of constructive contribution to the advancement of the cooperation of the electrical industry

through your creative leadership in coordinating the development of the electrical market in St. Louis and inspiring the electrical men of his State to united action in the promotion and defense of their industry."

Then in 1932, as chairman of the St. Louis Electrical Refrigeration Bureau, we won the highest award for national bureaus throughout the United States. At that time they assigned a quota to each of the bureaus throughout the country, and the St. Louis bureau doubled its quota, which was the largest doubling of any utility bureau in the country, 7508 and when I say "utility bureau", that means that it was made up not only of the utility men, but of all the dealers handling electrical refrigeration.

—3,177—

Q. Is the McGraw Award, of which you have spoken, sponsored by the Electrical World? A. By Mr. McGraw, the publisher of the Electrical World, yes, sir.

Q. Now will you state in general the policies of the sales department of the Union Electric Group? A. The general policies of the group are the securing of a constantly expanding use of service by existing customers, and the pro- 7509 moting of such growth in the number of customers as the territorial conditions permit, and the protection of existing loads.

The general policies are that expanding use of Union Electric Group's service by existing customers must come largely through the purchase by such customers of additional utilization equipment; that there are hundreds of commercial institutions which can be induced to offer electrical merchandise for sale to the customers of the Group; that the

7510 greatest volume of sales of electrical merchandise can only be achieved by giving maximum stimulation and cooperation to such commercial establishments; that one of the essentials in a cooperative program is aggressive leadership along sound, ethical sales and merchandising lines, which give full freedom to cooperating agencies to conduct their business in the manner they decide upon without interference from us; that every legitimate manufacturer, dealer, product and branch of the cooperating industry be permitted

7511 —3,178—

to participate in business created by the Group's promotional program, on the same terms as all competitors, and that the correlated business, not directly interested in the sale of electrical merchandise, can, under proper stimulation, be helpful toward the success of such an operation.

Q. Before getting into any extensive description of the various programs pursued, I think you might state, if you will, the general nature of the sales department from an organizational standpoint, that is, where authority is con-

7512 centrated and where functions are performed separately from a central headquarters? A. The sales department of the Union Electric Group is made up of men located at headquarters in St. Louis, as well as at the other offices maintained by the Group throughout the system.

In the City of St. Louis there are 219 such employees; in St. Louis County there are 51; in the outlying Missouri properties there are 32; in the Lakeside property there are 2; in the Illinois properties there are 21; and in the Iowa properties there are 10—or a total of 335 men and women.

Operated in conjunction with these forces are 26 stores. These stores render all classes of utility service to the customers in the districts in which they are located.

Q. Now is this headquarters staff divided up into a num

—3,179—

ber of divisions? A. Yes, sir. The headquarters staff must be prepared to serve all the divisions of the Group. There being comparatively few customers in the outlying districts, those districts cannot afford to have on their staff, and located right in those districts, the rather expensive type 7514
of man that is necessary to handle the many different types of electrical development and sales that present themselves.

There are 5 divisions in the headquarters staff:

Utility sales work, which constitutes the sales to our commercial, residential and industrial customers.

The merchandising sales force, which handles the sale of electrical merchandise to the residential group.

The dealer sales group, which handles the cooperation between the company and the extensive dealer organization that is cooperating with the company throughout its district in the prosecution particularly of merchandising sales. 7515

The rural group, which has charge of the development of our rural territory.

The advertising group, which has charge of the advertising for all of the districts, in cooperation with each of the groups that I have mentioned before.

Q. Now, if you will, state what the Sales Department does with respect to promotion of residential service? A. In carrying out the policies that we have in connection with

—3,180—

the development of the residential business, in cooperation with the electrical dealers throughout the district, the Union Electric provides a sound leadership by conducting aggressive merchandising operations in its own stores.

Now the value of that operation is many-fold, not only to the company, but to the customers and to the cooperating dealers alike, in that it provides throughout the system model displays for the benefit of the public and the dealer, and these are located in our own show rooms, but many of
7517 them are made available to the dealers.

It permits the introduction and the promotion of new merchandise for which a market has not as yet been created, and which profit-minded dealers would be unwilling to promote.

I might give an example of that in the electric range. Up to a period of about 5 years ago, all electric ranges sold in our district were sold by the Utility Company, and the sales were very small, running about 250 ranges a year. At that time we decided to promote the range through the dealer as well, set up sales programs and the advertis-
7518 ing programs so that this dealer could cooperate to his advantage.

The sale of ranges has jumped by leaps and bounds, and today, after just those short few years, the dealers are selling 60 per cent. of all of the ranges sold in the district.

The residential promotion also permits the formulation

of campaigns of various kinds, and assures their success by aggressive selling methods. By that I mean that our experience in the operation of the stores, in selling ourselves, gives

us the necessary background in order to accomplish these facts:

It permits the constant stimulation of the market through advertising, and other publicity.

It sets standards of fair advertising policies.

The elimination of excessive trade-in allowances, and the maintenance of sound financing plans. It does that by example only.

It stimulates the formation of manufacturers' and distributors' sales campaigns for dealers on a system-wide basis, 7520
without which the sales would not be comparable to what they are today.

It gives us valuable first-hand information on the problems of the cooperating dealers, and provides a proving ground within our own control, of the effectiveness of our various promotional plans.

It gives us, as a promoter—and that is what we are in connection with the sale of this merchandise—the necessary first-hand information on public preference and acceptance, and through the negative reactions of the public to certain 7521
policies and merchandise, divulges impediments to the substantial sales so necessary as a guide in formulating promo-

—3,182—

tion plans for the dealers.

Q. Please state what the sales department does with respect to commercial and industrial promotion? A. In the commercial and industrial fields, load-building promotional operations are also constantly under way. In these fields the Union Electric Group sells no merchandise. It directs its efforts exclusively to the development of the market and

7522 *Charles E. Michel—By Respondents—Direct*

the promotion of the merchandise that is offered for sale by selling agents appointed directly by the manufacturers or by the jobbers.

The promotional plans in these fields are scheduled with respect to customer groups as well as cooperating agencies.

Now in the promotion of that sort of merchandise, it is not possible to use the same methods, the same shot-gun methods that are used in the promotion of merchandise to the residential customer. You have to be selective as to the

7523 group of customers that you reach, as well as the group of dealers that you reach in the promotion of each of the different pieces of merchandise.

As an example, the customer that is interested in, for instance, some commercial cooking device, and the jobber and the manufacturer that is interested in that particular device, are totally different from the customer who may be interested in some large electric furnace.

The consequence is that each one of the men that is de-

—3,183—

7524 tailed in this work must have their groups of customers so drawn up that they may be reached by direct mail or otherwise, and by solicitation from the cooperating dealer group, without a lot of lost time in calling on customers not interested in the particular devices that are under promotion.

The promotion in these deals is active and aggressive, it employs advertising in all of its forms, although not usually newspaper advertising; dealer education; group demonstration and display meetings; demonstration installations; and the like.

Q. You have spoken of the extent of the sales department and of the number of divisions within it. Are the persons in charge of those divisions for the most part college graduates? A. The people in charge of the different divisions that I have spoken of are charged with the responsibility of advising the public in the economical use of electric service. I have always felt that those men and women charged with that responsibility must be very capable. In the group that I have mentioned, we have 40 men and women who have college degrees. 7526

I might give an example. The man in charge of our industrial heating division, which has to do with the sale of electric furnaces and all kinds of heating apparatus, is a B.S. in Electrical Engineering, and Ph. D in Physics and

—3,184—

Chemistry.

One more example. The two men that are in direct charge of the development of our rural service division, and rural customers, hold a B.S. in Agriculture.

Q. Now state, if you will, what the industrial sales division does, and what its functions are? A. The industrial sales division is a combined sales and service organization responsible for all negotiations with the larger industrial and commercial customers of the company. 7527

They handle all of the negotiations with customers having a connected load of 25 kilowatts and up. Of course, their prime purpose is the building of the load. They also, in connection with that work, are expected to build the good will and coordinate the customer-company relations. They are supposed to make their services so valuable to the cus-

7528 *Charles E. Michel—By Respondents—Direct*

tomer that when problems arise the customer will consult the company.

The activities of the division are to conduct all negotiations with customers of 25 kilowatts connected load and above, handle the execution and cancellation of their contracts for both new business, for successor orders, for change of rates when indicated that such change is to the advantage of the customer; and to make regular and frequent calls.

They have another very important job, and that is the

7529 —3,185—

contact with consulting engineers, architects, builders, contractors, and others, with reference to the new construction and changes in customers' conditions.

Very frequently it is necessary that those men guide the plans of an organization in the early stages of its development. Otherwise, they will provide service for the wrong type of the electric service that is available in the district, and will not take advantage, possibly, of the proper meter combinations to produce the lowest rate for the customer.

7530 That is one of the important duties of those men.

After the arrangement has been made through these consulting engineers and the customer, their job is to expedite the service connections, and they also have the important duty of handling the complaints and settling misunderstandings with these customers.

They again have a most important function, and that is to assist the customer to utilize electric service to his best possible advantage. That may have to do with actual changes in the plant layout, the type of drive, the type and

 7531

size of motors, the method of running the load of the customer, and so forth.

An example, briefly, I might give at this point is one that we had with a large baking company. Their demand was rather large, demand for electric service, and their bill was correspondingly high.

—3,186—

One of the industrial engineers found, upon surveying the plant, that that customer was charging his electric trucks at hours at which it was not necessary that he do so. In 7532
other words, he was putting the charging load on top of his ordinary manufacturing load, and thereby doubling his demand, which carries, under demand schedules, a higher charge.

By working with the engineer he was able to have that man schedule the charging of his electric automobiles in what we would normally call the off-peak hours in so far as his business was concerned. In other words, he would come on —if the business closed down at 5—he would throw his trucks on after 5 o'clock and run them before the business started in the morning. This particular business had a type 7533
of load that scattered throughout the 24 hours of the day, and it was very necessary that charts of operation be prepared.

After the completion of the study, and working with the man in charge of that work, the customer cut his bill with us very sharply. He has since told us that in his plants, located throughout the United States, he has had similar studies made and in his electric services he is now saving $50,000 a year due to that operation.

7534 *Charles E. Michel—By Respondents—Direct*

These engineers also have the important duty of bringing new developments and improved ideas and methods to each of the manufacturing groups with which they deal.

The general power sales group consists of five experienced industrial sales engineers for the city and county of

—3,187—

St. Louis, one for the outlying Missouri territories, one for the Illinois territories, and sales engineering assistance, whenever desirable, in any and all locations of the company
7535 from the Keokuk district down through the rural districts of Missouri.

Q. Now, if you will, state what the commercial sales division does, and what its functions are? A. The commercial sales division is a combined sales and service organization, which conducts the business of sales, service and promotional load-building with commercial customers of the Union Electric Group.

The organization in the City of St. Louis consists of 21 capable and experienced salesmen. Each has from one thousand to two thousand customers to look after.

7536 In St. Louis County, it consists of two trained load promotional salesmen.

In outlying Missouri, Illinois and Iowa, the work corresponding to that performed by the commercial salesmen is under the direction of the district manager in these different districts. This manager has, under his control, a branch manager and an office manager, commercial and industrial representatives, a new business manager in certain cases, and they conduct that business with the direct help of the St. Louis organization in that, wherever there is a job

that comes up that requires attention, which they are not capable or feel that they are not capable of giving, the St.

—3,188—

Louis group go into the territory and do the work.

The functions and activities of the division are much along the same lines as those I have described for the industrial sales force, with the very sharp distinction that they are handling the small commercial customer. The majority of their work is with customers that have loads up to a maximum of 25 kilowatts, but I would say on an average of 7538
5 or 6 kilowatts, and consequently they are people who do not have in their employ, as a rule, capable engineers to advise them, and do not employ consulting engineers as a general thing. So that these men must function for that customer in those particular lines.

Their duties are to follow up the calls; the building permits; newspaper real estate notices or items on new or expanded business; to conduct sales negotiations with third parties involving the customers.

I have explained the general methods.

Assemble information for the orderly extension of the 7539
transmission facilities.

Study the rate applications in securing contracts.

Promoting load—and this work consumes a sizable portion of their time.

They are expected to promote the lighting, commercial cooking, air-conditioning, and electric heating in the stores

—3,189—

of their customers when, in their judgment, it can be done to the advantage of the customer. Their method of work

there is to develop the prospect to a point where a specialist is necessary to give final and conclusive evidence as to the presentation that has been made, and actually close the order for the work when the specialists are called in from the sales department.

They also attend meetings and school demonstrations and displays, particularly in lighting work; follow-up or good will calls on customers; conduct interviews to uncover or develop information where customers are considering
7541 power other than utility service; conduct business with chain stores and chain service organizations.

This is a specialized group. We find that the chain stores usually have, in their employ, engineers and others who are highly specialized in their different branches. Our salesmen must be fully capable of meeting those men on their own ground, and discussing their problems in the use of electric service with them, and as a result we have found it necessary to develop two men who handle the chain stores exclusively.

These salesmen also assist the customer in locating and
7542 avoiding waste. They handle lighting surveys, they check meter tests on equipment suspected of wasting electric energy; and other forms of service to avoid waste.

—3,190—

Q. How is the residential service division organized, and what does it do? A. Well, the division handles service and load-building negotiations with our residential customers. There are 10 lighting women advisers who make verbal recommendations for correct lighting, and in conjunction with two salesmen, make calls on the customers in the city.

7543

Q. This is the City of St. Louis? A. Yes. There are two home-lighting women advisers who devote their entire time to home-lighting in St. Louis County and the outlying districts of the group.

There are two salesmen, whose duty it is to apply proper rates and handle other calls requiring personal contact with the customers, including line extensions, the temporary service connections for builders, new permanent business, and so forth.

A development engineer calls on architects and builders 7544
and cooperates with them on the adequate wiring, lighting, kitchen planning, and the general use of miscellaneous electrical appliances.

One woman lecturer devotes her entire time to lecturing on the subject of "better light, better sight" before any type of group desiring her services.

The division recommends various uses of lighting and appliances, and leaves the selection of the dealer to the

—3,191—

customer.

Inquiries about wiring are answered by giving the cus- 7545
tomer helpful advice on the subject, and then referring them to a licensed contractor of their own selection.

The operation of the division is based on the requirements, and calls are routed as to their location, except where urgency requires immediate attention.

The home-lighting advisers are assigned to districts throughout the city and the county, and calls are made following the regular meter routes. The adviser carries sufficient equipment to measure and demonstrate lighting of all

rooms and completes her call with a written recommendation. All requests or complaints of the customer are reported and followed to a satisfactory conclusion, many of which result in customer good will.

The lighting advisers are also available to dealers for store demonstrations, exhibits and personnel training.

For competitive and routine calls by the two salesmen, the city is divided into two parts. Each salesman handles all routine calls in his district, follows all calls to completion,
7547 seeking to develop closer relationship with the customer in the conduct of the business of the company.

All calls in relation to the district are given to the salesmen daily. Telephone orders for new connections are received and routed by the clerical division.

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The development engineer calls on architects, builders, homeowners, urging more use of electrical equipment and wiring where it is indicated. This same engineer advises the consulting engineers and the customers as to the services available from the Adequate Wiring Bureau of St. Louis, an
7548 organization which will check and suggest the proper layout of wiring for any class of home or store.

Now the residential service division has efficiently handled customer requests, educational promotions, and routine calls, which produce better living electrically for the customer, and improve customer relations and revenue for the Union Electric.

The home-lighting advisers in St. Louis and in St. Louis County, between October, 1934, and December, 1938, made 22,975 written recommendations for better home lighting.

7549

In the cities of St. Charles and Washington, located in the outlying districts of Missouri, approximately 3,000 demonstrations were made since June, 1938. Two salesmen make an average of 5,000 calls per year, consisting of calls about customers' relations, explanations, and advice on problems relating to rates, bills, availability of service, wiring, and so forth.

Lectures and demonstrations in the rural territory were made by the lighting advisers in cooperation with the rural service division.

7550

—3,193—

Various other lectures, meetings and demonstrations with doctors, nurses, blind societies, dealers, and trade organizations, were conducted by the supervisor for the training and the education in relationship to light and vision.

Q. What does the merchandising division of the Group do? A. The merchandising division of the Union Electric Group is responsible for the sale of all electrical merchandise sold by the company to its residential customers and performs certain load-building and service transactions for small commercial and residential customers.

7551

It is charged with the offering of leadership in cooperation with the dealer sales counselor, to all interests of the local electrical industry engaged in selling electrical merchandise to the residential customers.

It is also charged with the development, test and formulation of plans for the expanding use of service by the residential customers through increased use of appliances in the home.

7552 *Charles E. Michel—By Respondents—Direct*

It supervises the operations of all of the stores handling all types of customer transactions for residential and small commercial establishments.

It sells incandescent lamps or renews incandescent lamps for residential customers. More than 150 are employed in the merchandising division of the Union Electric Group.

—3,194—

The Group has been eminently successful in selling electrical merchandise to the residential customers. During the
7553 year 1939, they sold approximately $1,000,000 in electrical merchandise to the customers of the Union Electric Group, and this represents approximately 7 per cent. of the total domestic electric appliance business done in our territory.

Nearly 13,000 electric refrigerators were sold by the merchandising division during the period 1930 to 1939, inclusive. This is approximately 5 per cent. of the refrigerators sold to the residential customers.

Nearly 7,000 electric ranges have been sold to the residential customers during the period from 1935 to 1939, and
7554 this is more than 30 per cent. of the ranges sold during this period.

It is estimated that the Union Electric residential customers purchase during an average year more than 80,000 small electrical appliances from the merchandising division. It is estimated that nearly 30,000 I. E. S. or I. E. S. type of lamps, have been sold during the period 1934 to 1939. I might explain that "I. E. S." means Illuminating Engineering Society, who have approved certain types of incandescent lamps and fixtures for the proper use in seeing, and these lamps usually use bulbs of from 100 to 300 watts capacity.

They bear the label of the I. E. S., and in all cases where they do bear that label, they have been passed through a laboratory to see that they do conform with the specifications of those lamps.

—3,195—

The personnel of the stores, of which there are 26 in the Group, sold and renewed nearly 2,000,000 incandescent lamps during the period of 1939. They handled more than 75,000 applications and disconnections, that is, applications for service, and disconnections from service. 7556

They handled many thousands of customer complaints, appliances repairs, and other adjustments, and they sold in these stores approximately $800,000 worth of the $1,000,000 worth of appliance business done by the Group.

Now, continuous training of all employes of the merchandising division is performed by the supervisor. The supervisor is instructed by the merchandising manager and assistants, in cooperation with other divisional managers. In other words, his job is to train the merchandising men in all stores in all places throughout the Group.

The Union Electric Group, through its direct merchandising operations, and in cooperation with the electrical industry, publicizes or otherwise brings to the attention of thousands of its customers annually, the opportunities for use of electrical merchandise in the home. 7557

The direct merchandising operations, it is endeavoring to make all of its promotional efforts timely, taking advantage of seasonal opportunities for business.

In all of its direct merchandising activity, it ties in

—3,196—

7558 *Charles E. Michel—By Respondents—Direct*

the distributor and the dealer to all promotions conducted by the company's merchandising division. The company will not knowingly enter into any promotion by its merchandising division, in which the distributor or the dealer cannot actively participate.

During the 10-year period from 1930 to 1939, the merchandising division has run more than 6,000 advertisements amounting to more than 2,600,000 lines of advertising, and during this period of time nearly 1,500,000 pieces of literature have been distributed to the customers.

7559

A coordinated operation of the Union Electric Group's merchandising division affords certain economies and uniformities of operation that could not be achieved otherwise. The merchandising manager and his assistant plan and develop all of the merchandising programs conducted by the company's merchandising division.

The company's own participation in appliance merchandising facilitates effective dealer cooperation through a realistic understanding of the dealer's problems.

7560

The coordinated method of operation of the Union Electric System brings to the rural residential customer the same selection of merchandise, the same terms of payment, and the same standards of quality, and the same excellence of service, that are afforded the larger urban centers.

Without the coordination of effort, and integration of

operation, the rural residential customer would be deprived of some of these benefits.

The merchandising division avails itself directly of the services of the home service division of the company, which

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is made up of the home economists, whose duty it is to educate the public in the use of electrical devices in the home. It is not a selling organization and has no connection whatso ever with sales, and is purely an educational organization.

Demonstrations of electrical appliances are conducted in the company's home service kitchen, in branch stores, in neighborhood theaters, and in meetings of women's organizations, clubs, schools, home shows, county fairs and other appropriate places.

7562

Menus are prepared and tested for distribution to the company's customers. Customers are assisted by the home service division in the modernization of their kitchens and their laundries, and in the selection of other appliances necessary to complete these units.

One of their important duties is the testing of new merchandise submitted by the manufacturers.

It has saved us from making some very serious mistakes in our general promotion plans.

I may mention one example there, just to show what that was.

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A manufacturer submitted a small portable oven that had

a great deal of customer appeal. Of that I was personally sure. I felt confident that it could be sold in very large quantities, providing always that the merchandise itself was right.

I placed an order with that manufacturer for a substantial number with the proviso that the merchandise be submitted by sample, and the order was to stand if it passed the home service division.

7564 On test, this small portable oven could not pass our home service women. The distribution of heat within the oven was totally wrong, and the product coming out of the oven was not uniformly cooked and browned. The matter was fought through for a long time, and that particular manufacturer discontinued that model. Others have been made since that, which do a satisfactory job along the lines of cooking, but I attribute much of the final excellence of the article to the determined position taken by our home service depart-
7565 ment in refusing to let the item go across for sale through our sales department.

Now, I might mention another item in there, which shows something of what the department is doing in connection with some of the larger load building items.

We have at the present time some 25,834 electric ranges on our lines. That represents a saturation for the Union Electric Group of approximately 8.3 per cent. We have sur-

—3,199—

veyed these ranges carefully by putting meters on 651 of them, and taking readings over a sufficient length of time to
7566 determine the average consumption. We find that the average consumption per electric range is 95.8 kilowatt hours per month.

We also find that the cost per kilowatt hour for cooking in the district averages 2.23 cents per kilowatt hour.

In the case of the electric refrigerator, the total installations made in our territory are 292,191. That gives us a saturation percentage of approximately 87 per cent. The figure is made up of our known sales plus the sales that are reported to us as made in our district by distributors. Once

every six months every distributor doing business in the territory gives us a figure on what his sales to dealers in our territory were, and that is taken as the figure that they have sold.

The average use per electric refrigerator as of today I estimate as 30 kilowatt hours per month, and under the second step of our residential rate, of 2½ cents per k. w. h., that means that it costs approximately 70 cents per month to operate an electric refrigerator in the territory.

Q. Are there various specialists whose services are avail- 7568
able to these several divisions? A. I have explained the general sales work to the industrial and the commercial and the residential customers.

—3,200—

Now, when it comes to certain types of installations, it is unreasonable to expect even a well informed salesman to have all of the necessary information in order to do an A-1 job on other types of promotion. The result has been that we have built up, in the Union Electric Group, a series of specialists on the following items: lighting; industrial heating; commercial cooking; air conditioning; and isolated 7569
plant replacements.

In those divisions men particularly qualified for the work that they have to do have been employed, and it is their job to know completely the subject with which they deal. They are of great value in the education of our customers through the opportunities and advantages afforded by the use of purchased electricity.

Without such education, the maximum opportunities for promotion would not be realized. They are particularly valuable in the less populous centers served by the Union Electric

7570 *Charles E. Michel—By Respondents—Direct*

Group where there would otherwise be an insufficient number of customers to warrant the employment of individual experts.

Now, I think that a few words with reference to these several divisions might be pertinent at this point.

The lighting division consists of an organization having two broad responsibilities, the promotion of improved industrial and commercial illumination, and the negotiations

—3,201—

7571 concerning street lighting.

The organization consists of seven trained specialists who negotiate the illumination sales, promotional work on the entire system.

In the industrial and commercial fields, the men in the industrial and commercial staff are constantly making surveys of their own to inform these specialists as to the opportunities for load building within the stores of their customers, and it is then the job of these specialists to supply information on all the problems involved to the customers, as well as to the salesmen.

7572 They have the job of assembling the necessary information from surveys, and have today, for instance, one of their important duties, the guidance of our customers in connection with the complicated fluorescent lamp. Their job is to contact the architects, electrical contractors, builders, owners, illuminator supply sources, the jobber and the wholesaler, the manufacturer, and so forth, in assisting in the solving of the customers' illuminating problems.

What they really do is to supply a consulting illuminating service to the customer. That covers more than going into the details.

7573

They do prepare all the engineering studies and the preparation of specifications and recommendations for the customer and for the dealers' prospects as well.

—3,202—

Q. Now, what do these specialists do with respect to street lighting problems? A. The street lighting problem is a very specialized operation that is handled by the lighting division, and rightfully so because of the intricate nature of the work involved, not only in so far as the equipment is concerned, but in so far as the dealings are concerned.

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The illuminating engineer in charge is personally responsible for all of our street lighting work. His procedure is to go into the city—I am speaking now generally of the smaller cities, not of one like the city of St. Louis that has its own illuminating engineering employes—his duty is to survey that city and to lay out scientifically the illuminating system for the city, which includes a survey of major highways, minor highways, and so forth; and the specifications of the distance between lamps, the size of lamps, and so forth.

7575

Once that has been done, and the lamps spotted on a map, it is that man's duty then to present it to the proper public official, as well as to the municipal groups that have the interests of the city at heart, to discuss with them the possibilities of growth in certain districts, or the dropping off of business in certain districts. That has a direct influence on the type of illumination that he might recommend.

After all these different thoughts have been coordinated,

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and the final map prepared, it is then his duty to make the presentation before the citizens of the town, let them know

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just exactly what has been suggested, and also to the municipal authorities who have to pass on whether or not the illumination shall go in. And they handle it through from that point until the business goes in.

After once gone in, it is that man's duty, with his assistants, to consistently follow up those street lighting installations and to watch out for changes in business conditions, changes in the type of business on different thoroughfares; and to make recommendations for corresponding
7577 changes in the illuminating lay-out, as the business changes take place.

Q. What does the industrial heating division do? A. The industrial heating division's job is the building of the load through the application of electric heating to industrial processes, where such applications result in economies or other advantages to the industrial customers.

There is a large number of applications of electric heat that can and are made to industry to the advantage of, not only our company, but to the customer as well. I might
7578 speak of just a few.

The melting of gray iron has been one very important development. Back many, many years ago, St. Louis was one of the first cities to have the installation of a gray iron

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melting furnace made. We cooperated very closely with the customer, he was not at all sure that it would be a successful operation, but it has made that customer into a very successful operation.

A later development, for instance, has been the infra-red heating, the application of heat properly directed and con-

7579

trolled through the use of the carbon lamp. The field is absolutely unlimited. It was a type of development that took place originally in the four factories, and which has been thrown open to the public as a whole. Our men are today charged with the handling of the application of that important development. It is only a young development, just a few years old.

The activities are the conducting of direct-by-mail educational campaigns on industrial and commercial customers, of which there are approximately 700 on the Group's lines 7580
that, in one form or another, may benefit from the application of industrial heating.

Personal calls are made on each lead to study the problems and to make recommendations.

Demonstrations of heating equipment are made in customers' plants, where that is indicated.

For instance, in the small midget type heaters, as we call them, the man has a kit, and he goes from one organization to another, after the proper surveys have been made, to

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indicate that some type of industrial heating might be used 7581
to advantage by that customer, and with this kit he lays it out and interests the foreman of the shop.

It might be the installation of a little steam boiler here, an electric steam boiler at some far corner, where so steam was available. Or it might be strip heaters in maintaining temperatures in glue pots—or things of that general type.

The general sales are made, not by our company, but they are made by the manufacturers' agents who are located in the territory, and the demonstration of equipment is usually arranged through the manufacturers' representatives.

7582 *Charles E. Michel—By Respondents—Direct*

Special meetings with the industrial engineers of St. Louis are sponsored by the division where we bring outstanding speakers to these industrial engineers on one subject or another.

The results of the promotion by this division I can sum up very quickly.

The load in 10 years has been increased by 27,713 kilowatts, and at the present time, that is, as of January 1, 1940, stands at 83,815 kilowatts.

7583 Q. That is the electric heating load? A. That is the electric heating load.

The Examiner: Let's have a short recess.

(Whereupon a short recess was taken.)

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The Examiner: Let us resume.

The Witness: It is probably appropriate at this time to say something about the air conditioning division of the company.

The air conditioning division was opened in 1929,
7584 was organized at that time. It was among the first air conditioning bureaus organized in the United States. The function of the Group's division is to promote the installation of air conditioning equipment on the lines of the entire Group, and not to merchandise air conditioning equipment but to act in the capacity of a consulting engineer to the prospective buyer in the careful watching of the type and size of installations that are put in.

We find that very necessary because not only too small a unit will give you unsatisfactory service, but

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likewise too large a unit will give unsatisfactory service for the reason that too large a unit would operate on very rare intervals, and the control of humidity would not be achieved by such an operation.

So that the department has had to be thoroughly educated and trained in the science of specification of the types and sizes of equipment.

It cooperates with all of the distributors by keeping them constantly informed on the Group's activities, and providing for them assistance in their sales efforts.

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—3,207—

Articles of an informative nature are constantly written to both the distributors, their salesmen, and to the public. Open forums are conducted in cooperation with educational institutions. Sales training in air conditioning is provided for the industrial sales force of our company, as well as the commercial salesmen, so that they may uncover and conduct the preliminary negotiations with our customers in connection with air conditioning installations.

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When these have reached a point where real interest has been aroused on the part of the customer, then the air conditioning division is called in, and that particular sales operation is turned over to that division who then works in connection with the manufacturer and the distributor of the merchandise.

Statistics of air conditioning installations are currently maintained for the use of the dealers, and the distributors so that they may plan their sales

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activities along lines indicated by experience. Special studies are carried on by the department to determine operating characteristics, operating hours, and current consumption of existing installations, and also to keep abreast of the new methods and equipment developed, a most important operation.

For instance, at the present time there is in the development stage the storage type of air conditioning. The cost of installation is quite comparable to

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the ordinary compressor type that is in use today, but

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it is indicated that the use of the storage type may substantially reduce the cost of operating to the customer, due to the fact that the storage type depends upon night operation for its charging, and providing the storage type is of sufficient capacity and providing the customer is on a demand rate, under the provisions of the demand rate schedule, which permits night demand in excess of the day demand without additional demand charges, reduced costs in operation

7590

seem quite sure.

That development is taking place rapidly, we are watching it carefully, we have made three installations in St. Louis, in which we have cooperated in the installation, and are working with those customers now to develop the real facts.

The results of the growth of the air conditioning load our lines may be stated about as follows: In 1930 there were 26 installations with a connected load of 4,148 kilowatts; and on July 31, 1940, there were

3,154 installations, with a connected load of 36,252 kilowatts.

Now, on a per capita basis, that is a substantial amount of air conditioning load. Remember that it is young and growing.

Q. Are some of these installations residential installations? A. Yes, sir. I will give you some information on that which I consider very important.

As of July 31, 1940, there are 1,475 residential installa- 7592
—3,209—
tions in St. Louis, and that is exceptional. Air conditioning for commercial operation and for sales operation is quite common, but that large a number of residential installations is not as yet common throughout the country.

For instance, another important division there is offices. There are 760 installations in offices in the city of St. Louis; there are 273 retail stores in the city; and there are 159 installations in eating places, such as taverns, within the limits of the Group.

Q. You have spoken of the isolated plants divisions; how 7593
is it organized and what does it do? A. The isolated plant division of the company is a combined sales and service organization responsible for all negotiations with customers and prospects through the system, operating or considering the operation of an isolated plant.

Its main objective, of course, is the obtaining of new business from the replacement of existing plants and also the retaining of existing business when threatened by proposed power plant installations.

7594 *Charles E. Michel—By Respondents—Direct*

The division operates under a specialist who is informed fully on all of the different types of competition to which utility service is subjected. I need not recite those here, but that man is able to sit down and discuss with consulting engineers and plant engineers any type of power, including electric power, and its application to a particular job.

—3,210—

They maintain frequent sales contacts with emphasis laid
7595 on the economy of purchased electricity as compared to isolated plant operation.

The development of the prospects' interests and obtaining the prospects' consent to make a thorough investigation of conditions.

The conducting of engineering and economic studies resulting in a definite proposal indicating comparative advantages.

Selling the prospect on the advantages indicated by the proposal.

The negotiation of contracts for the purchase of elec-
7596 tricity.

By Mr. Hamilton:

Q. Mr. Michel, you might explain what you mean by "isolated plants" in this connection. A. By "isolated plants" I mean plants that are installed or are about to be installed by either the industrial or commercial establishment for the supplying of their own electrical requirements.

It may, and frequently is, run in connection with steam service where the steam requirements for processing purposes are large, and where the demands on the electrical

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consumption and the steam consumption and so forth are somewhat coincident there is a very difficult job in holding that customer or selling to that class of customer.

Where that does not exist, with rates as low as the Union

—3,211—

Electric rates, we have comparatively little trouble in combating the isolated plant operation in our territory.

Does that answer your question?

Q. Yes. A. This isolated plant division has, as one of its functions, the familiarizing of the company's sales representatives with the engineering and economic aspects of the isolated plant operation, and the training in the best methods of combating that competition. 7598

Assisting in the handling of negotiations with existing customers where isolated plants are being considered.

The organization consists of one development engineer, two industrial sales engineers, and one consulting engineer, covering all territories of the Union Electric Group.

It operates both directly with customers and prospects through the general sales staff.

The department has been most successful in that operation. It has lost but a comparatively small amount of electric service through the installation of isolated plants in our district. 7599

Q. Now, in addition to the direct merchandising activity of the Group, you also cooperate with wholesalers and dealers in the territory, do you not? A. We have one of the best organized dealer cooperative organizations in the country. It is so recognized in the industry. It was recognized by the McGraw Award that I spoke of way back in 1933,

—3,212—

7600 *Charles E. Michel—By Respondents—Direct*

when the organization was in full swing at that time, and has continued up to the present time.

We have in that work one man only who is directly charged with the cooperative work. He is a sales counsellor who has but one lone job on earth, and that is the development of the dealers' business in our territory. His success or failure in his work depends entirely upon the success or failure of the merchandising operations of the dealers. That man is a capable salesman. He is a well informed man on
7601 dealer cooperation, having been previously in the position of a paid secretary of the Radio Dealers' Association of St. Louis, from which organization I took him because of his wide experience, his wide acquaintance among the dealers, and his natural education and qualification for cooperative work.

He is a trainer of salesmen whose services are available to all dealers in the city. He is a trainer of the managers of salesmen primarily. He spends a great deal of time with them. He is charged with conveying to all retail and wholesale outlets in the city, handling electrical appliances, the
7602 complete details of the sales promotion plans that are developed by the Union Electric Group for the benefit of the dealer.

He is charged with the helping of these people in connection with their advertising programs, showing them from our own experience in our own merchandising work, the features of the different pieces of merchandise which seem to have the greatest appeal to the public.

—3,213—

He is charged with the coordination, as I have said, of those dealer activities with the activities of our own mer-

chandising department, and with the advertising that is put out.

He is charged with handling the public shows and exhibitions, such as the annual Home Show; the dealers' sales counsellor establishes a cooperative participation by the dealers and the company by those types of shows.

He also encourages the dealer to make full use of the home service division of the company, arranges with the home service department for the demonstration, for instance, of a particular electric range, calling into that demonstration the 7604
distributor and all of his dealers, together with their salesmen, where our own home economist educates those salesmen as to the benefits to be derived from the use of that particular range.

—3,214—

All of the advertising that is run in connection with our dealer promotion, and it is very extensive, is signed, not by the Union Electric Group, but by the "Electrical Dealers & Contractors" or, "See Your Electric Range Dealer".

The company's name appears only when we say, "In cooperation with the Union Electric Company", or the "Union 7605
Electric Group", as the case may be.

Plan books are issued to describe each major advertising program, and these are quite important. It has been established now since 1934, and is called the Electric News. The dealers are expecting it, and in it are set forth the promotional plans set up by the company for the dealer.

It goes further than that, and when new pieces of apparatus appear on the market, it describes those pieces of apparatus and just where they fit into the promotional plans to the benefit of the public.

7606 *Charles E. Michel—By Respondents—Direct*

The counselor frequently has our own advertising department work with the dealers in the preparation of their advertising. The cooperative advertising published in the past 7 years, which is over and above the advertising of the Company's merchandising division, included 712 newspaper advertisements, 900 billboards, 2,875 radio spot announcements, 207,000 direct-mail pieces, 17,864 dealer store window displays, and 1,645,000 pieces of printed matter, which was put out over the dealers' names for the purpose of drawing

7607 —3,215—

to those dealers' stores the prospect for one or another type of electrical merchandise.

Q. Now is the result of this program a stimulation of the dealers' activities? A. Very definitely so. The average dealer is usually a little business man. He very frequently is not fully informed on the best principles of merchandising and sales work, and, left to his own devices, he fails to get out of his organization the maximum possible sales.

With the work that is done with these dealers, they are not only stimulated to additional activity, but are informed

7608 properly on these underlying principles that make for their success.

Q. Are there other services provided by the Union Electric Group for the dealers in the territory? A. Yes, sir. In promoting the dealers' work and business, the services of the home-lighting division are at his disposal, as are the services of the different specialists in the company, such as the air-conditioning man, the refrigeration man, and so forth. They work with the dealer and help him in his work.

Q. Will you refer to Respondents' Exhibit No. 51, which sets forth the electric service territory, and tell us whether

the electric service in the entire shaded portion indicated on Exhibit No. 51 is furnished by the Union Electric Group?

—3,216—

A. No, not all of the service is supplied by the group. The group thoroughly covers all of the territory in which we hold certificates of necessity and convenience, but there are certain other groups that furnish some of the service. I might mention that within the corporate limits of the City of St. Louis, there is the Laclede Power & Light Company, which furnishes electric service in competition with our company. 7610
As of the year 1939, they furnished 14 per cent. of the total number of kilowatt hours that were sold within the corporate limits of the City of St. Louis, and their sales, as compared with the Group sales of electricity in its entire territory, were 5.9 per cent.

Q. The distribution of the Laclede Company is confined to the City of St. Louis, is it? A. It is confined to the City of St. Louis, and thoroughly covers a very large proportion of the city. I can best describe what it doesn't cover, which is the southwest section of the city, which is somewhat more sparsely settled than the city as a whole, and furthermore, 7611
has only been developed in comparatively recent times. Their lines do not run into that section, but the rest of the city they cover.

Q. Are there sales by the Union Electric Group to certain municipalities? A. There are three municipalities, small ones, that have their own distribution system and purchase electricity from the Union Electric Group. These are the

—3,217—

cities of Farmington, and Kirkwood, in Missouri, and the small town of West Point in Iowa.

Q. And are there any customers within the territory who are served by cooperatives? A. In the territory in which the group holds certificates, there are three cooperatives that, through spearheads, serve a few customers.

Around the town of Alton, on the north and on the eastern border, and in territory not covered by our company, the M. J. M. Electric Cooperative, Inc., and the Southwestern Electric Cooperative, Inc., operate. These two have a few spearheads into our territory and so serve a total of 8 cus-
7613 tomers that are located in our territory.

In the Keokuk district there is the Appanoose Light & Power Company, a cooperative, which serves a half a dozen customers up there. So that that is a total of about 14 customers that are served by cooperatives.

Q. Has the Union Electric Group, over a period of years, conducted a program of rural electrification? A. It has. The majority of the rural customers that have come to the Union Electric System have come through the acquisition of properties other than the original property, which served the City of St. Louis only. Those rural districts, which were
7614 not served as a general thing by the small properties

acquired by the Union Electric, have been, since that time, the recipients of a great deal of careful thought and service in an effort to have them come on the line.

In the year 1932, I personally took over the direction of service to the rural customers of the company. Prior to that time, it had been looked after by the managers in the several outlying offices which I have enumerated previously.

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In that year I became convinced that we could, to advantage, run our lines further into the rural territory and attract a considerable amount of business.

I put out one man during that year to sound out the farmers on the question of, for instance, soil heating, brooding of chickens, to see whether or not they were interested, and found that they were.

In 1933, a development engineer was assigned to the rural districts to study the situation. His contacts were largely with farmers already on the lines, all of those adjacent to 7616
existing supply lines, and covered not only the use of service but the use of utilization farm equipment.

Early in 1934, we decided that the possibility was such that a comprehensive survey of our entire rural area was indicated. Maps of the territory were secured and the following force was built up to handle the survey:

A utilization engineer in charge; four field engineers; two draftsmen; one estimating engineer.

—3,219—

These men covered practically every road in the territory 7617
over which an automobile could be run. They spotted on the maps the location of each prospective customer and classified these customers as to possible revenues.

They were split into four classifications: The vegetable grower and commercial customer were estimated at about $65 a year for electric service; Class B was a dairy farmer with a small commercial customer, at $35 a year.

—3,220—

Class C was a rural residence or a general farm customer with a revenue of about $25 a year; and class D was

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a class of schools, churches, and the little small residence, with revenue of about $11 a year.

Now, these revenues under which they were classified were derived by averages from customers of the same type already on our lines. From a study of these maps we determined that it was possible for us to extend the area feeders which would bring the service within reasonable distance of all prospective customers, and these feeders were put under construction.

7619 When they had gotten under construction and it was evident to the rural customers that lines were being run, we changed the organization from a purely engineering organization to one consisting of a development engineer in charge, three sales supervisors, and eight salesmen, and these men set out to contact every prospective customer within striking distance of the area feeders.

These men were selling not only electric service, but the idea of farm utilization equipment, although they did not sell the equipment itself, but used dealers to actually handle the equipment sales.

7620 Q. I gather from your testimony that the centralization of the rural electrification program in the group began in 1932? A. The centralization, that is correct.

—3,221—

Q. Had there been activity in the field of rural electrification on the part of the group prior to 1932? A. Very definitely, but it was handled, as I said, by the men in the local offices, and was handled just as routine business. It was not a specific, definite drive to get the customers on the line.

Q. Now, what is the record of the Union Electric group with respect to the availability of electric service for cus-

tomers in the rural territory? A. Well, after the company made its first extension of primary area feeders, which constituted 69 miles of such feeders, and after these men had contacted every customer in the rural area who was within reasonable reach of the area feeders, we handled as of 1933—7,512 rural customers, and the miles of line at that time were 517.9.

In 1934, we ran 108.3 miles additional, and picked up 726 customers.

In 1935, we ran 56.3 miles and picked up 1,354 cus- 7622
tomers.

In 1936, we ran 216.2 miles and picked up 1,878 customers.

In 1937, we ran 152.6 miles and picked up 1,075 customers.

In 1938, we ran 109.3 miles and picked up 1,329 customers.

Last year, 1939, we ran 145.7 miles and picked up 1,464 customers.

So that we now have a total of 15,338 customers.

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—3,222—

Q. And a total mileage of what? A. And a total mileage of 1,306.3 miles.

Q. Now, I think you had better explain what you mean by the term "rural" as applied to the figures which you have just given. A. Rural customers today are defined as those customers lying in the territories at which our rural rates apply. They are outside of the metropolitan areas in which the same rate applies in all area, but it is slightly higher in the rural area than it is in the metropolitan area, and all customers in that area are classified as rural customers.

7624 Consequently, if there is a town located in the rural area that is classed as a suburban district, it is deducted in computing the number of customers in the rural area.

Q. Are you able to give us any figures as to the percentage of coverage within this so-called rural area of potential customers? A. I can say this, that at the present time 60 per cent. of the available business is already connected to the lines. There remains 40 per cent. to be, I hope, gotten sooner or later.

7625 In considering those figures, permit me to say that our rural areas are somewhat sparsely populated and none too productive, due to the fact that a large part of the rural areas district lies in the foothills of the Ozark Mountains, and there are many districts up there which it is awfully hard to get to with lines, and having gotten there, the cus-

—3,223—

tomers are not in a position to take service regardless of how cheap it may be brought to them.

Q. What are the policies of the group with respect to line extensions within the rural territory? A. In connection with

7626 the extension of line to the rural customers, as I have stated, after the survey was made we ran area feeders, which covered practically all of the larger roads in the territory. From these area feeders it becomes necessary to connect the customers from one side to another, and the company will invest three years' estimated revenue per customer, but not less than $50 per customer. The customer has the privilege of guaranteeing three years' revenue equal to the cost of the extension, or of depositing the difference between the estimated annual revenue and the cost of the extension. These deposits are subject to refund based on the amount by which

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the actual first three years' revenue exceeds the company's investment, and $30 for each new residential customer added during the first five years. No refund, of course, is made of the total amount of deposit beyond that which has been put up.

Q. Now, the investment of which you have spoken is a figure, is it not, related to a particular line extension, to a particular customer? A. That is correct, sir.

—3,224—

Q. Does the program of rural expansion which the Union 7628
Electric group pursues, cover all classes of service to the rural customer? A. It does. As I have previously stated, we have two men in charge of the development of the rural territory, both of whom are graduates of the University of Missouri, holding the degree of B. S. in agriculture. Those men direct the sales force that operates in the rural districts. During the past six years, 366 meetings were held with the rural groupsson the use of small appliances, major appliances, home lighting, farm applications of electricity, and the total estimated attendance was 25,625 people.

During the same period more than 100,000 mailing pieces 7629
was sent to the farm customers on farm applications of electricity, including brooding, poultry house lighting, poultry water heating, milk cooling, soil heating, green house lighting, and household applications.

The company's rural service representatives have been responsible for an addition of 1,545 installations of electrical equipment during the past 5 years. That is farm utilization equipment.

The magazine "Electricity to the Farm," which is a national magazine, is mailed to 1,200 farmers each month, for

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which there is no charge made. The educational work is carried on with the full cooperation of the State Agricultural

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Extension Service and other State and Local farm agencies.

Displays and exhibits are held each year at county fairs and other agricultural functions. An average of 200 personal calls on rural customers is made each month by the rural service representatives.

7631 The Examiner: We will recess until two o'clock.

(Whereupon, at 12:20 o'clock p. m. a recess was taken until 2 o'clock p. m. of the same day.)

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AFTERNOON SESSION

(Whereupon, at 2:00 o'clock p. m., the hearing reconvened.)

Whereupon CHARLES E. MICHEL resumed the stand and testified further as follows:

Direct Examination by Mr. Hamilton:

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Q. You were discussing rural electrification, Mr. Michel. Would you describe what, if any, obstacles confronted the Union Electric group in the course of developing its rural electrification program? A. In the rural territory served by the Union Electric group, we extend all the day from the rich bottom lands in Missouri, along the river into the foothills of the Ozark Mountains and the problem in the two different districts is quite dissimilar.

In the lowlands, the farms are of considerable size, the soil is rich and the farmers are reasonably prosperous. In those territories the type of promotion has to be quite different from that which we use in the vast majority of our rural territory. The vast majority of that rural territory is located in the foothills of the Ozark Mountains.

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Previously I testified to the fact that we had made a careful survey over all of the roads in the territory on which we could run an automobile. That, of course, took us into the sparsely populated and hill districts of the Ozark terri-

tory. In that territory there was no such thing as a large farm. It consists, primarily, of small acreage, stony ground,

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and the products of the little farms are largely tomatoes, or some grapes, a few apples, and things of that kind.

It is seldom that you will find in those districts any grain farmers. You do find a few poultry farmers and a few dairy farmers. In the survey that was made, it may be interesting for me to say that not on one occasion, but on several occasions we encountered homes that had no doors and no windows in them; just shacks that were covered with burlap, and we had quite a considerable amount of difficulty in inter-
7637 viewing those people and we insisted on interviewing them to find out what their conditions were, whether or not they were interested in electric service in the homes, and upon their little farms, and then we ran up against that condition of affairs where the farmer not only was put to it to try to pay the small electric bill that was involved—and I may say right here that the minimum charge in our territory is only 75 cents a month against the amount of service that they guarantee to use—and they not only couldn't pay the 75 cents a month, but the matter of wiring their little homes and the matter of the purchase of necessary utilization equipment
7638 was completely out of the range of possibility with those people.

Now, as I say, we talked to everyone of these farmers

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that were within a thousand feet of our area of feeders, so we determined that if we were to be successful in those areas, that we probably never could take the very poor grade of farmer, or habitant that was there, that I just described, that we would have to point toward a man who would have some possibility of use of electricity to his advantage.

Then we had to set up some method of getting that apparatus in the hands of that man on terms that were within his possibility of meeting. We set up a deferred payment plan for these farmers on all of the utilization equipment that he could use in his home—I am talking now of directly in the house, domestic appliances—and in those cases, we would carry his account for him.

In the case of farm utilization equipment, a different sort of problem presented itself and that was the sale of items such as brooders, soil heating, and so forth. In those cases, 7640 we encouraged the dealers to go into the business and to attempt to sell the farmers direct.

We also extended a plan to those dealers that we have in operation in the City of St. Louis. That is, he sells his customers and asks us to carry on the light bill the deferred payment accounts.

Those deferred payment accounts are entered on our light bill, are billed to the customer, and when the money comes in, it is sent to the dealer. In a case where the customer becomes sixty days delinquent, we simply return to the dealer

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the original paper which he sent to us and it is up, then, to the dealer to deal and work with his customer on the collection work. In other words, we will not become a definite collection agency for these dealers beyond the reasonable willingness to pay of the customer that is there.

That made it rather difficult in those districts, as you can easily understand. The fact that a water system would cost that man maybe one hundred or a hundred and fifty dollars, and the other apparatus somewhat less—now, in an

effort to make it more feasible for those smaller customers to purchase, for instance, the electric range, which we believe to be one of the things that he can use to advantage, we have gone into a plan of promoting a very low-priced electric range.

It sells for about $55.00, and that range, in certain sections of the territory, is being promoted at the present time in order that we determine how the customers accept it. If we find a general acceptance, we will extend the plan to
7643 the entire territory, but, generally speaking, when you get into the Ozark Mountain district, you find the economic situation of those people that live there, with certain exceptions, rather strained.

Does that answer the question?

Q. I think you stated this morning that you actually had on your lines approximately 60 per cent. of prospective customers in the rural territory. Do you mind amplifying that statement just a little further? A. No, sir; I will be glad to.

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The development of policies and methods used in the
7644 expansion of the Union Electric group to bring electric service to the prospective rural customers in the large, unserved areas in this territory, were the result of specific studies of the problem of rural electrification.

Governmental agencies and private utilities use different definitions of rural areas. It was felt at the time that, if possible, the rural areas should be defined in such a manner that they would, for many years in the future, be well-defined and established areas.

For this reason, the Union Electric group selected and defined a specific rural rate zone. The rural rate zone covers

practically all of the farming area in the territory and includes only a limited number of incorporated areas.

The largest incorporated community has a population of 311. This manner of defining the rural territory necessarily includes much less territory than if the United States Census Bureau definition of area outside of communities of 2,500 or more population had been used.

Information and data on rural customers can, therefore, be considered as covering a typically rural territory and not one of a suburban or urban type. 7646

The definition gives further weight to the successful elec-

trification of the territory as, in this territory, more than 60 per cent. of all the prospective customers have electric service.

Now, it is the definition of that prospective customer, I believe, that is wanted. When we made the survey of the territory, as I have already described it, we included all customers within 1,000 feet of the area extensions as prospective customers, and, as of the report handed in by my men, which was dated the first of this year, 60 per cent. of all 7647 prospective customers, as defined, have now added electric service.

Q. 60 per cent., then, of all persons having residences within 1,000 feet of your lines, is that correct? A. Within 1,000 feet of the area feeders.

Q. Are you able to give us any statistics as to the consumption of electric energy within the rural territory and also as to the average cost to the consumer within that territory of the current purchased? A. I believe you asked, first, for the number of customers.

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Q. My question related, specifically, to the consumption, average consumption. A. Average consumption?

Q. And to the cost of that consumption. A. During period April 1, 1935, through March 31, of 1937, records were maintained by the accounting department of the energy

—3,232—

consumption by farm customers for the Missouri territory only. At the end of March 31, 1936, the average yearly consumption by those farm customers was 1,063.9 kilowatt
7649 hours per year. For the year 1937, corresponding period, the consumption was 1,165.0 kilowatt hours. So that the annual increase by those customers during that year's period was 92.1 kilowatt hours.

Q. Well, now, subsequent to the date of those figures, was the classification changed due to the fact that the Federal Power Commission has specified a new classification which does not permit us to keep the pure farm customer? A. We are now conforming to the Federal Power Commission's rulings and I can't give the figures beyond 1937.

Q. On a basis per farm? A. On a basis per farm.

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Q. Are you able to give it on a basis of per rural residence customer? A. No, sir, I can not give that on the basis of per rural customer.

(Discussion off the record.)

By Mr. Hamilton:

Q. Will you verify, Mr. Michel, and see if you can give us the answer to the question I have just put to you? A. Yes, sir, I can give the answer.

The average kilowatt hour consumption per rural residence customer in 1939 was 374 kilowatt hours and the average cost per kilowatt hour for the residential service

—3,233—

in the rural area of the system was 3.69 cents per kilowatt hour.

Q. That figure of average cost being also for the year 1939, is it not? A. That is correct, sir.

Q. Now, are you able to outline for us, generally, the nature of the residential rate schedules in effect in the Union 7652
Electric group? A. Yes, sir.

The Union Electric group residential rates are comparable throughout the entire territory served. The areas are divided geographically to take in the St. Louis City, County, urban, East St. Louis and Alton urban. The second division is St. Louis County suburban district; the third is St. Louis County rural district; the fourth is the outlying Missouri urban, East St. Louis and Alton rural; and the last is the outlying Missouri territory.

As these territories have come into the Union Electric system, we, of course, inherited, with the different companies, 7653
an enormous number of different rates. We have been able, in case of the residential rate, to bring practically all of the service to residential customers under what is known as the "block meterrate."

There is one form of rate schedule which applies to the whole territory and uniformity in residence rate has progressed to the point where all active residence rates in

—3,234—

Missouri, Illinois, and Iowa territory are of the block meter type, with 30 or 32 kilowatt hours in the first block, 168 or

170 kilowatt hours in the second block, and the third block for use in excess of 200 kilowatt hours per month.

So that we have one residence rate under which all service used in the residence is billed for under that rate. The St. Louis City and the urban districts around in St. Louis County and Alton and East St. Louis, the rate is the first 32 kilowatt hours per month at 5 cents; the next 168 kilowatt hours per month at 2½ cents; and all excess at 1½ cents.

7655 In the suburban district, which is that district lying just outside of the urban territory, the rate is identical excepting that the first step carries a 6 cent charge instead of a 5 cent charge. That is, the first 32 kilowatt hours.

In no territory, including the rural territory, have we any top step in our residence rate higher than 7 cents.

The outlying Missouri territory, rural, which we have been discussing, has 32 kilowatt hours per month at 7 cents, the next 168 at 3 cents, and over 200 kilowatt hours per month at 2 cents. That carries a minimum bill for our rural territory of 75 cents a month.

7656 In the urban territory, the minimum bill is 50 cents a month.

Now, in the Iowa territory, we had certain difficulties

when we attempted to equalize the rates with the rest of the territory. Always, when we would take over a piece of property, as we did in that case, we have found rates that were not what we would term sound rates. They might have steps in them that did not represent what we considered the proper steps, and there were points where the

normal rate might not, for an individual customer, produce as low a rate as he had.

In those cases, we let the rate alone until such time as the reduction in our general rates were such that we could step in and wipe these other rates out. That keeps us from raising the bill of any of the customers.

In the Iowa territory, today, the rates are 6½ cents for the first 30 kilowatt hours a month, as distinguished from five at 32 in the more densely populated district around St. Louis, the next 170 at 3 cents and over 200 kilowatt hours 7658
per month at 2 cents.

In the rural areas in Iowa and Illinois, the first step is 30 kilowatt hours per month at 7½ cents, the next 170 at 3 cents, and all over 200 kilowatt hours per month at 2 cents a kilowatt hour.

Q. I don't believe, Mr. Michel, you gave the precise figure for the second and third blocks on your schedule which commences at 6 cents per kilowatt hour for the first 32 kilowatt hours per month. A. Yes, sir.

—3,236—

Q. Will you give that? A. I think it possible that I did 7659
not.

That is for St. Louis County suburban. The St. Louis County rural is 7, 2½, 1½. That is the third classification that I gave. It is 7, 2½, 1½.

Then the outlying Missouri urban territories are 6, 3 and 2, and the rural I gave was 7, 3 and 2.

Does that answer the question?

Q. Yes. In general, what are the other rate classifications, aside from that for residential service? A. If I may,

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and if it answers the purpose, I will describe the rate classifications that cover 85 per cent. of all customers served by the Union Electric group, and the variations from that I will be glad to give you as they are desired.

I have discussed the residence rate as it applies not only to the urban district but to the several geographic districts that we have.

We have five general rate schedules. One residence rate, one general commercial rate, one standard rate—the last
7661 two applying to commercial business—one large light and power rate, and one high load factor rate—the last two applying to large industrials and commercial establishments.

The general commercial rate is available for commercial lighting and/or power. The rate is:

The first 300 kilowatt hours per month at 5 cents;

The next 300 at 4 cents;

The next 400 at 3 cents;

The next 4,000 at 2½ cents;

And all over 5,000 at 2 cents.

7662 There is a load factor clause in that rate which states that for all use in excess of 5,000 kilowatt hours per month, which is also in excess of 200 kilowatt hours use of the demand, the charge will be 1½ cents per kilowatt hour.

That is applicable, as I say, to the small lighting and power business.

The other rate, which is applicable to the same class of business, is known as our standard commercial rate. It carries a yearly demand charge of $12.00 per kilowatt per year, payable in monthly installments, plus an energy charge

for the first 1,000 kilowatt hours per month, 3 cents per kilowatt hour.

For the next 4,000, 2½ cents per kilowatt hour. All over 5,000, at 2 cents per kilowatt hour.

These rates are all subject to a prompt payment discount of five per cent. on the first $25.00 per month, and one per cent. on the excess.

Now, for the large business, the two rates that we have, one known as the large light and power rate is taken under service contracts for three years or more, and for not less 7664
than 150 kilowatts of demand.

The service is supplied and measured at primary voltage.

The demand charge for each kilowatt of the first 200 kilowatts of demand is $1.66⅔ per month—that is $1.66⅔.

For each kilowatt of the next 800 kilowatts of demand, $1.25 per month.

For each kilowatt in excess of 1,000 kilowatts of demand, $1.00 per month, payable monthly, plus an energy charge for the first 300 hours use of the demand, 7 mills per kilowatt hour. 7665

For the next 200 hours use of the demand, five mills per kilowatt hour.

All excess over 500 hours' use of the demand, 3½ mills per kilowatt hour.

The rate is subject to a coal clause, adjustment for coal cost.

The demand is defined as the highest average load in kilowatts existing in any period of 15 consecutive minutes, and the billing demand to be used as the basis of determining

the demand and energy charges for the month will be either the demand established during that month, between 7:00 a. m. and 10:00 p. m., or 50 per cent of the demand established during that month, between 10:00 p. m. and 7:00 a. m., whichever is the higher.

Billing demand, as I said, will be for not less than 150 kilowatts. The minimum monthly bill will be the demand charge based on the highest billing demand established during the 12 months ended with the current month.

7667 For primary high load factor service on three-year contracts the schedule is the first 365 hours use of the first

200 kilowatts of demand per month—1.5 cents per kilowatt hour. First 365 hours use of the next 800 kilowatts of demand per month—1.0 cent per kilowatt hour.

The first 365 hours of use of all over 1,000 kilowatts of demand per month, 8½ mills per kilowatt hour.

All kilowatt hours in excess of 365 hours use of the total demand per month, 3½ mills per kilowatt hour.

The rate is subject to a coal clause the same as in the
7668 case of the large light and power rate.

The demand upon which energy blocks will be based in billing is defined as the highest average load in kilowatts existing in any period of 15 consecutive minutes during the month. No demand of less than 150 kilowatts will apply.

The minimum monthly bill will be the application of the above charge to not less than 365 hours use of the demand established during the month, but in no case less than the following charges, based on the highest demand established during any of the preceding 11 months:

The first 200 kilowatts of demand, $1.66⅔ per kilowatt per month.

The next 800 kilowatts of demand, $1.25 per kilowatt per month.

All over 1,000 kilowatts of demand, $1.00 per kilowatt per month.

Prompt payment discount as described above applies to this rate also.

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Now, that is the five different types of rates that we have 7670
and under which our customers are taken. They are applicable, with variations in their charges to different geographic districts, but the rates that I have already named to you cover 85 per cent. of all the customers served by the group.

Q. Is that 85 per cent. in number of customers? A. Yes, sir. That is in number of customers.

Mr. Hamilton: Will you please mark this diagram as Respondents' Exhibit No. 61 for identification?

(The document referred to was marked Re- 7671
spondents' Exhibit No. 61 for identification.)

By Mr. Hamilton:

Q. Will you please state, Mr. Michel, what Respondents' Exhibit No. 61 for identification represents? A. This line graph shows the average rate per kilowatt hour paid by residential customers from the year 1912 to the year 1939, inclusive.

For the same period it shows the national average as given by the Edison Electric Institute data.

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It also shows the average yearly kilowatt hour use by the residential customers during the same period and the average yearly kilowatt hour use for the nation as a whole.

Q. Has this diagram been prepared under your supervision? A. Yes, sir. It has.

Q. The information given covers data for the Union

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Electric Company of Missouri and its subsidiaries? A. Yes, sir.

7673 Q. And the facts shown as to those companies have been taken, have they not, from the records of the respective companies indicated? A. That is right.

Mr. Hamilton: I offer it in evidence as Respondents' Exhibit No. 61.

Mr. Binford: No objection.

The Examiner: It is admitted under the number mentioned.

(The document referred to was received in evidence as Respondents' Exhibit No. 61.)

7674

By Mr. Hamilton:

Q. In order to clarify the exhibit, Mr. Michel, will you give us the precise figures at 1912 and at subsequent periods —let's say at ten-year intervals—as shown by the exhibit? A. In the year 1912 the average use by the residential customers was 285.6 kilowatt hours. I do not have the national figure as of that year.

The Union Electric group customers paid an average of 8.89 cents per kilowatt hour for their use, and the national

average during the same year, taken from the data obtained from the Edison Electric Institute statistical bulletins No. 2, 1935, and No. 7, 1940, show that the national average was 9.10 cents per kilowatt hour.

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Q. Now, state the same figures, if you will—or comparable figures, rather—for 1920. A. 1920?

Q. Yes. A. The Union Electric group average, as of 1920, was 395.2 kilowatt hours per year.

The national average was 339 kilowatt hours per year. 7676

The Union Electric rate average was 5.8839 cents per kilowatt hour, and the national average was 7.45 cents per kilowatt hour.

Q. Now, again, at 1930 and at 1939, if you will? A. 1930?

Q. Yes. A. In 1930 the average kilowatt hours for the Union Electric group was 618.9.

For the nation as a whole it was 547 kilowatt hours.

The average rate paid by Union Electric customers was 4.4510 cents per kilowatt hour, and, for the nation as a whole, was 6.03 cents per kilowatt hour. 7677

As of 1939 the average consumption in the Union Electric group was 1,014.7 kilowatt hours against the national average of 900 kilowatt hours, and the average rate paid by the Union Electric group was 3.2266 cents per kilowatt hour against the national average of 4.06 cents per kilowatt hour.

In other words, in 1939 the Union Electric consumption,

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average consumption, per residence customer was more than 12 per cent. higher than the national average, and Union

Electric's charges on the average kilowatt hour was 20½ per cent. lower than the national average.

Q. Now, are you able to give us the date on average use or average rate paid by consumers in other than residential classification of service? A. Yes, sir. I am. For the year 1939 I have given the residential rate average as 3.2266 cents per kilowatt hour. From the small light and power business for the same year, the average rate was 3.05 cents per kilowatt hour.

7679 From large light and power business the average rate was .85 cents per kilowatt hour.

For the total sales of electrical energy by the group, the average cost was 1.42 cents per kilowatt hour.

Q. Now, will you indicate, Mr. Michel, the largest customers on the Union Electric group system? A. The six largest customers—expressed in demand; not connected load—is 91,800 kilowatts.

Q. That is, the total demand of the six largest customers? A. That is the total arithmetical sum of the maximum demands, individual customers.

7680 Q. And that is for what period? A. That is for the period ending with September 30, 1940.

Q. Turning, now, to the matter of rate reductions, will

you indicate very briefly the number of rate reductions over a period of years, effected in particular classes of service, and indicate generally the sum total of those reductions in each class for the same period? A. In the period September 1, 1919, to June 15, 1940, there were 82 reductions in rates made by the Union Electric group.

51 of those reductions applied to the Union Electric Company of Missouri, and 31 applied to the subsidiaries of the Company.

In all, and in both territories combined, there were eleven reductions in residential service, 37 reductions in commercial service, 18 reductions in industrial service, and 16 reductions in other classes of service. A total of 82. And applying the rate reductions to either all of the customers or to a large sampling of the customers, for their use prior to the 12 months during which the reduction is made, the total 7682 reduction is found to be $6,016,183.00 per year.

Q. Now, that is the sum total, is it not, of the 82 reductions to which you refer? A. That is correct.

Q. Will you give us the breakdown as between the different classes of service in dollars? A. In dollars?

Q. Yes. A. Yes, sir.

—3,245—

In the residence service in which there were 11 rate reductions, the total amount is $1,928,277.00.

In the commercial service, where there were 37 reductions the amount is $2,837,305.00. 7683

In industrial service, where 18 reductions were made, the total is $1,039,696.00.

To other services, of which there were 16 reductions, the amount is $210,905.00.

Making the total of $6,016,183.00.

Q. Now, have you any data indicating an increase or decrease in the use of electric energy as between the various classifications of service to which you have referred, during the year 1940, over a comparable period in 1939? A. I have the data for the year 1938 and the year 1939.

7684 *Charles E. Michel—By Respondents—Direct*

Q. Well, can you give us any interim figure for 1940 as compared with 1939? I think the comparison between '39 and '38 is probably adequately indicated by the exhibit. A. Yes, sir.

The kilowatt hour sales during the first eight months of 1940 to the major service classifications, indicates the following:

The residential, urban, and rural, shows an increase of 9.05 per cent.

7685 The large light and power industrial group shows an increase of 16.61 per cent.

—3,246—

The small light and power group shows an increase of 7 per cent.

The sale to other electric utilities shows an increase of 11.61 per cent.

The sale to railroads and railways shows an increase of 2.84 per cent.

Q. And the composite? A. Is an increase of 12.38 per cent. over the previous year.

7686 Q. Now, if you will give us the breakdown between major classifications of service in sales of kilowatt hours for the year 1939, giving, if you will, percentages of total sales. A. Yes. During the year 1939 the kilowatt hour sales, divided according to the major service classifications, and the per cent. of these sales to the total, were as follows:

Residential, urban and rural, $309,987,615. The per cent. of the total sales was 14.48 per cent.

The sale to the large light and power group was 1,020,297,591 kilowatt hours, and was 47.67 per cent. of the total.

The small light and power group was 237,653,585 kilowatt hours, representing 11.10 per cent. of the total.

The sale to public authorities was 47,651,084 kilowatt hours, representing 2.23 per cent. of the total.

—3,247—

The sale to other electric utilities was 401,412,412, representing 18.75 per cent. of the total, and the sale to railroads and railways was 123,506,900 kilowatt hours, representing 5.77 per cent. of the total.

The total sales being 2,140,509,187. 7688

Mr. Hamilton: May we have a little recess?

The Examiner: Yes. We will take a short recess at this time.

(Whereupon a short recess was taken.)

The Examiner: You may proceed.

By Mr. Hamilton:

Q. Is the matter of rate schedules, Mr. Michel, a subject of constant study and investigation by the Union Electric group? A. Yes, sir. It is one of the most carefully thought out and studied problems that we have. 7689

In the sales department we have a rate and statistical division in which there are five men.

Those men are engaged, year in and year out, in the study of our rate schedules in all different divisions.

One of the primary studies that these men make is the division of the total kilowatt hours purchased under the different steps of the rate.

Now, when I say that we have some 350 thousand customers, it is easy to understand what a monumental task that is.

—3,248—

Furthermore it is absolutely essential to know those figures before an intelligent reduction in a rate schedule can be made. We, without them, would not be sure that we were according the customer an equitable reduction, nor could we be sure of the reduction in revenue that the company
7691 suffers by each such reduction.

The reduction, in the case of the residence rate, is never made with a sampling of less than ten per cent. of the total number of residential customers for one year's billing by months.

By plain multiplication it shows that there are some 330 bills that must be analyzed in order to arrive at just what we are doing.

In the case of the larger customers, the rate is applied to every customer's consumption for a period of one year, by months, because of the fact that the variation in those
7692 customers is very large and the fact that the possible percentage error by a sampling would be very large.

We have found that the ten per cent. sampling in the case of the residential customer assures accuracy to within approximately two per cent.

Of course, the application to the large customer is almost one hundred per cent. accurate.

In making these studies it is quite essential that we consider all classes of competition with the Company for its

—3,249—

electric customers.

 7693

We, in common with all other utilities, have this competition with us always, and a mistake in your rate reductions could very easily be a very expensive thing to the company, not only in the loss of revenue by an incorrect rate analysis but by loss of customers to some competitive form of service.

Q. Have you finished your statement? A. On that particular point.

Mr. Hamilton: Mr. Examiner, I am just about finished with Mr. Michel. 7694

There are a few things I would like to check on the transcript before turning him over for cross-examination.

I wonder if we could resume tomorrow, briefly, and then, if acceptable to you, go ahead with the cross examination.

Mr. Binford: I have no objection.

(Discussion off the record.)

The Examiner: All right. We will recess until ten o'clock tomorrow morning. 7695

(Whereupon, at 3:35 p. m., the case was recessed until 10:00 a. m. the following morning.)

7696

BEFORE THE

Securities and Exchange Commission

Docket No. 59-10

IN THE MATTER

of

THE NORTH AMERICAN COMPANY, *et al.*

7697

Hearing Room 1101,
Securities and Exchange Commission Bldg.,
Washington, D. C.,
Friday, November 8, 1940.

Met, pursuant to adjournment, at 10 o'clock a.m.

7698

Before: W. W. SWIFT, *Trial Examiner.*

Appearances:

S. PEARCE BROWNING, JR., and CHARLES S. HAMILTON, JR., of Sullivan & Cromwell, 48 Wall Street, New York City, Attorneys for Respondents.

RALPH C. BINFORD, Attorney for the Securities and Exchange Commission.

Charles E. Michel—By Respondents—Direct 7699

PROCEEDINGS

The Examiner: The hearing will come to order.

Whereupon, CHARLES E. MICHEL resumed the stand and testified further as follows:

Direct Examination by Mr. Hamilton (Resumed):

Q. You testified yesterday, Mr. Michel, that Laclede Power & Light also provided electric service to St. Louis, 7700
and that in addition there were sales by the Union Electric Group to three municipalities, which distributed over their own distribution lines, and that there were certain very minor sales by cooperatives in the territory.

Other than those three groups which I have named, is there any electric service sold or provided by any other electric utility in the territory covered by the Union Electric Group? A. No, sir; there is not. We serve the entire territory with the exception of those that I gave yesterday.

Q. You testified yesterday also that during the period 7701
from 1919, I believe, to 1924, you had served in a dual capacity in St. Louis, and also with the Milwaukee Electric Railway & Light Company. During that period of dual service, just what did you do in Milwaukee? A. I was assigned by the executives of the North American Company to go to Milwaukee and study the merchandising situation.

—3,252—

I did. My first visit extended over some two or three weeks, and I at that time surveyed the buying habits of the people of Milwaukee.

7702 *Charles E. Michel—By Respondents—Direct*

I then made a careful survey of the company's policies in connection with promotion work, in connection with their relations with dealers, in connection with their types of merchandise which they handled, and so forth.

At the end of that time I realized that the first thing that had to be done was to provide proper quarters for the merchandising department to operate in. I arranged with the architect for the construction of such quarters. They were actually built, and after they were built I took charge
7703 of the actual operation of the department.

I made a clean sweep of the type of merchandise that was being handled, appraising it item by item with the merchandise that my experience had indicated to me was the best for the public use, and also called meetings of the dealers, and very frankly explained to those dealers our objectives and what our present methods would be.

When I went there I found the revenues from their merchandising operations, which included not only the appliance business but certain jobbing work that they did in connec-
7704 tion with wire and motors and things of that kind, ran to about a little over $300,000 a year. The merchandising business itself, as I remember it—this is a long time ago—was about $75,000.

At the end of the five-year term, when I left there due to press of business in the St. Louis office, the sales had run up to in excess of $1,000,000 a year.

It was not always easy to substitute the type of merchandise that I was quite convinced was best, in the Milwaukee situation.

 7705

I might give you just one example. It was in connection with washing machines. In those days they had what they called the Dolly type washing machine. It consists of three little pegs extending down into a tub, and the motor on top worked it back and forth. It was an obsolete type of washer even then, but it sold for about $45 or $50.

I substituted for that washer a washer that sold for about $100, and Mr. Way felt that I was going too far, that I was trying to put too expensive merchandise over on the public in Milwaukee, and I had quite a long time convincing him 7706
that the other was obsolete and out of the picture, which has since proven to be true. You couldn't buy one today to save your life.

That is just one example of the changes that were made in order to accomplish the results that we did accomplish.

Then our relationship with the dealers was very satisfactorily set up. We did not camouflage the situation at all. In open meetings I explained to these dealers that we were

not philanthropists but that incidentally our objective and 7707
their objective was a common objective, that what we were interested in was getting out on the lines the maximum amount of domestic utilization equipment that could be used by our customers to advantage because of the fact that that helped build our load, which in turn had very definite beneficial effect on our rate structure, and that they were interested in the selling of the maximum amount of merchandise, and that consequently we were there to help them and not to hurt them.

7708 *Charles E. Michel—By Respondents—Direct*

They accepted that situation and we went along, and to my belief they are still operating along those general lines.

Q. During the period of five years you have referred to, how frequently were you in Milwaukee on the business of the Milwaukee Electric Railway & Light Company? A. When I first went to Milwaukee, I used to spend close to two weeks out of each month, until such time as I got over the rather arduous task of reconstruction of both the physical facilities and the organization. My memory would say that
7709 that was about two years.

At the end of that time I cut my visits down to about every other week, and would spend three or four days there.

Then the situation in St. Louis became such that more and more of my time was required there. You realize that I was sales manager of the St. Louis organization, having the merchandising business under me also, and I finally had a schedule of leaving St. Louis on Friday afternoon,

—3,255—

arriving in Milwaukee Saturday morning, working Saturday and Sunday, leaving there Sunday evening and back on
7710 my job in St. Louis on Monday morning—and I carried that through for some two years, as I remember it, before I relinquished the direct visits to Milwaukee, after which time, at the request of Mr. Way, I acted as a consultant whenever they wanted to talk to me about matters. They would come to St. Louis at times, and at times I went to Milwaukee for consultation when changes were in the wind.

Q. During the period of your active service in Milwaukee, were you in charge of the merchandising of the Milwaukee Electric Railway & Light Company? A. I was; yes, sir.

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Q. In the field of your sales work, does the Union Electric Company of Missouri interchange information with other subsidiaries of the North American System? A. Oh, yes; oh, yes.

Q. Will you indicate the nature of that information, and indicate also how frequently that interchange occurs? A. Well, the principal interchange of information at the present time consists in the interchange of advertising material. That material, of course, is gotten up by the different companies after their sales policies have been determined, 7712
and their objectives set forth, and the publicizing of the

merchandise or the policies are put in the form of newspaper advertising, bookets, pamphlets, or what-not.

We boys in the sister companies interchange that advertising constantly. It comes over my desk in a constant stream, and I read it carefully, and route it to that portion of the sales department in which I think it will do the maximum good.

I might give just one example. There is a little patented 7713
figure known as "Reddy Kilowatt" that is being used by certain utilities for the purpose of being able to talk in a more familiar manner to their customers in their advertising,—"Reddy Kilowatt does the talking; he tells how good an electric range is", and so forth.

Frankly, I was not very well sold on the use of that sort of a device, I didn't like it, but I kept reading these ads that came through from Milwaukee, Frank Coffin used to send them to me, he is the vice president in charge of sales at Milwaukee; and Harold Brooks of Washington, and I gradu-

7714 *Charles E. Michel—By Respondents—Direct*

ally changed my mind on the subject, and determined to try the little gadget out.

I went into it in a very modest way to start with, I wouldn't let it appear in any of our institutional advertisements, nor be used in connection with any of our bills or letters that went out to our customers other than the straight merchandising, which is a moderate use of the symbol and of the possibilities of that symbol.

—3,257—.

7715 But by constant reading of these advertisements that I have been receiving from these other companies, I have enlarged the use of the symbol and I think to the very definite advantage of our company.

That is just one example of the type of information that we get out of these advertisements that come in. There are numbers of others that I might mention.

Q. What does this advertising material consist of that you have referred to? A. The advertising material consists of a galley-proof of the newspaper advertising, of the booklets that are gotten out, of the pamphlets and all types of
7716 advertisement which is put out to reach the public.

Q. The material is exchanged prior to publication, is it? A. Generally it is received before it even goes out. For instance, in our own case we have a regular schedule for advertising; it is set up the first of the year; the money is allocated, the amount that is going to be spent, by months, the items that are going to be advertised in those months—they are all set up.

Then the ads are drawn, and they are worked on ahead of time, so that we won't have a last-minute rush in getting

up advertisements, which is a curse to the advertising business.

—3,258—

As soon as those are ready, I send them out to these boys in the sister companies that I deal with, and they do the same thing with me. The consequence is that I get theirs and they get mine usually before they appear in the daily press.

Q. How frequently does this interchange take place? A. Well, it is in more or less of a constant stream. I don't think 7718
that there is a week that goes by that I don't receive one or two sets of advertising from the different companies.

Q. Is this interchange of value to the Union Electric Group? A. I think it is very distinctly of value to the company. There is no one man that has got a corner on all the ideas, and the ability to put them over, and if you can consult in an intimate way and get intimate details from other sales managers who have had a wide experience, and a record of achievement behind them, it is undoubtedly of value. That applies to me or to any other man in that line of work. 7719

Q. Do you know other sales managers of other subsidiaries of the North American Company personally? A. Oh, I know them very well.

Q. Do you see them on various occasions? A. Yes, sir; I do. I generally see these men at one of the national meetings that occur, one of the national committee meetings, or one of the general conventions. That is almost a constant

—3,259—

thing, and I see them at those meetings.

7720 Q. Do you see them only at the general meetings? A. No, I don't see them only there, but that is the majority of the contact at the present time.

Q. Do you discuss sales problems with these other sales managers whom you see at the meetings? A. Oh, yes; with George Miller, of Cleveland; Harold Brooks, of Washington; and Frank Coffin, of Milwaukee. We make it a practice to get together and have some very intimate discussions of our several problems. We exchange information on rates,
7721 on prospective business, and matters of that kind.

Q. Do you mean by your statement that you meet with these gentlemen independently of the industry meeting at which you all happen to be present? A. Oh, yes. The type of information that we discuss when we get around a little round table is totally different from that which we would discuss over the table with a group of 25 or 30 independent sales managers.

Q. You might elaborate on that a little further, if you will? A. Well, I can give you an example of something that occurred within the last 60 days.

7722 The sales executive conference was held in Hot Springs, Virginia, at which there were about 40 of the vice presidents in charge of sales of the different utilities throughout the

country present. At that conference was Frank Coffin and Harold Brooks and George Miller and myself, and the incident that I have in mind first occurred in the general meeting, at which the vice president in charge of sales of one of the large utilities in the country got up to discuss rates, line extension practices, and so forth, in connection with large

industry, and he mentioned the fact that a very special problem had arisen in connection with one industry, and then frankly stated, "I won't identify that industry, because Charlie over there I am quite sure is figuring on the same job".

Mr. Browning: He was pointing to you at that juncture?

The Witness: Yes, pointing to me. He called me "Charlie".

So after the general meeting adjourned, and I was 7724
sitting in social conference with the executives of our sister companies, I had identified this job to my own satisfaction, and I disclosed it to these men, and then I found out that Frank Coffin in Milwaukee was figuring on the same job.

Now as distinguished between the type of conversation that occurred between this gentleman who brought the matter up in the general meeting, and Frank and myself, Frank frankly told me all about the job and I asked him to send his rates and what 7725
he was doing in connection with that job, and he said that he would just as soon as he got back. He did send the data to me and not only sent me that sort of information but he sent me some very important information in connection with the type and char-

acteristics of the load that were totally different from my understanding of the characteristics of that load, and on which I had already made a proposal, and it caused me to quickly withdraw the proposal I had

already made and make another proposal to this prospective customer, which I sent to Frank, or a copy of which I sent to Frank, of course.

By Mr. Hamilton:

Q. Are these contacts with other sales managers of North American subsidiaries of value to the Union Electric Group? A. Yes, sir; I definitely think they are.

Q. Is your relationship with these sales managers of
7727 the North American subsidiaries different from your relationships with sales managers of non-affiliated companies? A. Oh, yes; there is quite a fundamental difference. In the case of the average sales manager of the general utilities, our discussions are largely confined to the broad fundamental basis of the sales problems, whereas my relationships with the sales managers of the North American subsidiary group, are in relation to the details of the specific objectives and how they are to be accomplished.

Mr. Hamilton: That is all.

7728 *Cross Examination by Mr. Binford:*

Q. Mr. Michel, throughout your testimony you have referred to the Union Electric "Group"? A. Yes, sir.

—3,262—

Q. I don't believe at any point so far you have definitely stated the names of the particular companies which you include in that group, as you speak of it. Will you please give those names? A. May I give them out of my papers? I have got them in my mind, but I would rather be specific about it.

Q. Surely. A. They are: The Union Electric Company of Missouri; the Union Electric Company of Illinois; the Iowa Union Electric Company; the St. Charles Electric Light & Power Company; the Lakeside Light & Power Company; and Mississippi River Power Company.

Q. You are vice president in charge of sales of the Union Electric Company of Missouri, is that correct? A. That is correct.

Q. Do you occupy any office or position with any of the other companies which you have identified as being included 7730
within your definition of the Union Electric Group? A. No, sir; I do not occupy any elective office, nor appointive office, with those, other than the charges that have been placed on me as to the general promotion and handling of the sales work for the entire Group.

Q. You didn't include in your term "Union Electric Group", the St. Louis County Gas Company? A. No, sir.

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Q. You have nothing to do with the sales end of that company? A. No, sir; I do not.

Q. Are any of the members of the personnel working 7731
under your direction employed by any other company than the Union Electric Company of Missouri?

Mr. Browning: May I suggest that counsel define "employee" for the witness?

Mr. Binford: I think the term is one well understood, isn't it?

Mr. Browning: No, my point is that it would consist of at least two things: first, whether the employees of the sales department render any services

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for the other members of the Group; and, second, by whom they are paid for these services.

Mr. Binford: My question was not directed as to whether they perform services for the members of the Group, but as to who hired them and fired them.

The Witness: On the basis of your last remark as to who hired and fired them, no, sir, those men are not under me directly, not under my direct supervision for that purpose.

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By Mr. Binford:

Q. By whom are they employed in the first instance? A. By the district executives operating the different districts that I have named, of the subsidiary companies.

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Q. Are they all on the payroll of the Union Electric Company of Missouri? A. Do you mean are all of the men——

Q. (Interposing) All of the personnel working under your supervision? A. Under my supervision?

Q. Yes. A. Yes, sir.

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Q. But excluding the district managers and district personnel of which you have spoken, is that true? A. Yes, sir; they are not under my group, but when you say "under my direction", their exact connection with one of the Group does not necessarily mean that I do not direct the operations of some of those men. I must give an example to explain what I mean.

In the case of the Union Electric Company of Illinois, just to take one single example, the merchandise manager of that company is almost exclusively directed by me, or

through me by the merchandise manager in the St. Louis office. He wouldn't dream of making a move in his merchandising operations without consultation with the headquarters group, as I call it.

Q. Can you state how many persons of the personnel operating under your general direction and concerning whom you have previously testified, is employed directly, that is to

—3,265—

say, is on the payroll of Union Electric Company of Mis- 7736
souri, as distinguished from the subsidiary companies? A. I can, I think, from the information that I have here.

302 out of a total sales personnel for the Group of 335.

Q. Upon what payrolls are the remaining members of the personnel in question carried? A. There are two on the payroll of the Lakeside Company, 21 on the payroll of the Union Electric Company of Illinois, and 10 on the payroll of the Iowa Company.

Q. Then is it correct to state that all members of the personnel operating under your general direction are carried on the payroll of the Union Electric Company of Missouri 7737
except 2, who are actually located at the Lakeside property, and 10 who are located in Iowa? A. And 21 in Illinois.

Q. And 21 in Illinois? A. Yes. They are on the payroll of the Union Electric of Missouri, but there is charged to these other companies portions of their salaries and traveling expenses incident to the trips that they make into those territories, and the work that they do for them.

Q. Could you state the aggregate cost, including salaries and wages, for the sales work that has taken place under

7738 *Charles E. Michel—By Respondents—Cross*

your direction for the calendar year 1939? A. I can, sir. As

a controlling percentage for the operation of the sales department of the Group, we set up 2½ per cent. of the gross revenue derived, of the gross sales, I should say, less inter-company sales, which are deducted.

For the year 1939, the total sales promotion expense, which covers supervision, salaries, commissions, demonstrations, and advertising, miscellaneous expense, and rents,
7739 amounted to $675,789.98.

Q. Do you also have the figures showing in dollars how that was allocated among the respective companies? A. I do not.

Q. But it was allocated upon the basis which you have indicated? A. Yes, this is a consolidated figure taken from the statements of all of the companies.

(Discussion off the record.)

By Mr. Binford:

7740 Q. Would you care to state again just how the allocation of that expense was made as among the respective companies involved? A. I can't give the accounting details on that, I am not entirely familiar with them. I do know that the men who are employed by the different companies, that their salaries and expenses are charged to those companies. I do know that a portion of the cost of the Union Electric Company of Missouri headquarters staff is allocated to other

companies when they go out and serve those other companies.

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Q. But you do not know the basis upon which that allocation is made? A. I do not.

Q. Do you know who makes that allocation? A. My answer would be a guess, and I would rather say that I do not know.

Q. Certain portions of the overhead expense of the sales department located in St. Louis are allocated, however, to the subsidiary companies of the Group, is that true? A. I would call them operating expenses rather than overhead. I don't know just what you mean by "overhead".

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Q. Let us say, for instance, such charges as rent and items of general supervision which can not be specifically attributed to one particular job, but which, nevertheless, are items of expense of the sales department—are those expenses not apportioned in some way among the companies supposedly benefited thereby? A. I would say that in the case of rent, no, they are not. The Union Electric Company of Missouri and its several divisions pay their own rents. I do not believe that those rents are apportioned between any other divisions of the company.

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However, I must say that I can not make a definite answer to that question, I am not familiar with the account-

ing procedure.

Q. You are likewise not familiar with any allocation that may take place as to advertising expense, I presume? A. No, sir; I do not know, I haven't it in my mind. They can get it for you (indicating Respondents' Attorneys), but I haven't it.

Q. You would say, would you not, however, that the promotional advertising, particularly of the merchandising

type, probably operates to the benefit of all companies in the Group as well as to the benefit of the Union Electric Company of Missouri? A. Yes, sir, it would, and that advertising is usually taken by the different groups and used in their own local papers, they placing their own advertising in their own papers. That is, the definite assignment of advertising to newspapers outside of the corporate limits of the City of St. Louis, is not handled by the St. Louis group, but by the men in direct charge of the divisions.

7745 Q. The St. Louis newspapers' circulation, however, as a matter of common knowledge, is not confined to the corporate limits of the City of St. Louis, is it? A. No, it is not; no, sir.

Q. I believe you testified that the Union Electric Group maintained 26 stores? A. That is correct, sir.

—3,269—

Q. Could you state the location of those stores, please? A. No; I can give you a number of them.

(Discussion off the record.)

7746 The Witness: No, sir; I haven't with me the exact location of those stores; I can name several to you, if you care to have an incomplete statement.

By Mr. Binford:

Q. Could you state approximately how many of those stores are located in the City of St. Louis? A. Yes, sir; four. And the original main office.

Q. All the other stores, then, are located in territory not served directly by the Union Electric Company of Missouri,

is that correct? A. No, sir; that is not correct. For instance, in St. Louis County, there are five stores; and in the outlying plants of the Union Electric Company of Missouri there are most of the balance of the 26 stores. You will find that at Lakeside there is one store, and in Illinois there are three stores; in Iowa there are three stores; and in the Union Electric of Missouri territory there are 19 stores.

Q. A these stores owned and operated by the particular companies in the service area of which the stores are respectively located? A. My answer would be an assumption. I 7748
know nothing about that, I think that is true, but I don't
—3,270—
know it.

Q. Who would have control of that situation, or knowledge of it? A. Well, I assume that one of the executives of the company would, one of the top executives.

Q. Do you know whether or not wholesale purchases or purchases from jobbers for these several stores are made jointly? A. We buy in St. Louis through our merchandising manager, and stock merchandise in our warehouse. That merchandise is drawn on by many of the different divisions. 7749
I cannot make the statement that all of it is so handled. I am under the impression that in the Illinois and the Iowa territory, their orders are placed direct, that they do not pass through the St. Louis organization. However, if they want any merchandise that we have in our warehouse, we would be glad to let them have it, and they would draw on it.

Q. When merchandise is so supplied to any subsidiary by the Union Electric Company of Missouri, do you know if it is supplied at cost to the Union Electric Company of Mis-

souri? A. You are in an accounting matter again that I really can't answer.

Q. I believe you testified yesterday that among the divisions of your sales staff, there was a group called a dealer sales group which handled the cooperation between your

organization and what you characterized as "the extensive dealer organization that is cooperating with the company throughout its district in the prosecution particularly of

7751 merchandising sales."

Now is there a dealer organization whose activities extend over the territory, over all the territory served by the Union Electric Company of Missouri Group? A. Your question, as I understand it, is: Does the dealer organization extend throughout the Union Electric Group?

Q. Yes. A. Certain of them are, certain of them are not.

Q. But no one particular group? A. I can say that the jobber group to a large extent would cover the entire district. I would say that practically no independent retailer covered any such group.

7752 Q. For instance, the dealer organization in Iowa would probably not be the same dealer organization that operated in St. Louis? A. No, sir; it would be a totally different dealer organization, excepting in so far as certain of the suppliers are concerned. The jobber is what I am referring to. The jobber who handles St. Louis in many instances handles the Keokuk district. I well know that, because when they have problems in Keokuk they come to me for advice on how to handle the situation. So that I happen to know the jobber situation. I also happen to know that there is no retailer of

merchandise in the St. Louis organization that is also a retailer in the Iowa group.

Does that answer your question?

Q. Yes. Now the jobbers' organization—is that a national organization or an organization covering the Middle West as a whole? A. There are 30 jobbers doing business in electrical merchandise in our territory. We will take, for instance, the Graybar organization. It is a national organization with its main headquarters in New York, and doing business in every large city in the United States, with local 7754
offices, and in all of the small cities through traveling men. That is just one of them.

We have local jobbers in St. Louis as well as national jobbers, they are of two kinds.

Q. Out of what jobbing center would the stores, let us say, in Keokuk, be served normally? A. I really couldn't answer that question.

Q. You wouldn't state positively that it would be St. Louis? A. I wouldn't say that positively, no, sir.

Q. In other words, the aggregate territory served by the Union Electric Group of companies is not such a territory 7755
as to be regarded as peculiarly one unit by the jobbers, is it? A. I would say that that statement is not correct. When we work up our campaigns, one of the important

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things that we do is to pull the jobber organization in first, even before the dealer gets in. We ask his advice, we tell him what we are intending to do on a system-wide basis. We frequently alter our original plans by learning something from some man in the jobbing organization, and then

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that jobbing organization, if it happens to be a national organization, passes it through to its home office for operation throughout the Union System, the Union Electric System.

Where it is a manufacturers' organization such as the General Electric, the Westinghouse, the Landers Frary & Clark Company, it goes through the manufacturer to all districts, because we send to those manufacturers details of the plans we intend to put in, together with the advertisements that we intend to run, and tell them, "Now get
7757 your gang behind this".

Q. However, you would not characterize the territory served by the Union Electric Company Group as constituting a natural, what might be described as a jobbing area, a single jobbing area, would you? A. Oh, yes, sir, I would. You take the concentration along the Mississippi River, Illinois, Missouri, and Keokuk properties, and they look to me like they would be covered by practically the same men. I can't make the statement that they are, but it looks perfectly normal that they should be.

Q. Just to clarify the record, I believe you referred yes-
7758 —3,274—
terday to the sale of electric ranges on your Group's line as representing a "saturation" of approximately 8.3 per cent. Does that mean that approximately 8.3 per cent. of the residential customers on these lines now possess electric ranges? A. That is correct, sir.

Q. It doesn't take into account the persons who are merely potential customers, but are not connected? A. No, sir, that figure is arrived at by taking the total sale of electric ranges in the district, making certain allowances for dis-

connects, and replacements, and then relating the ranges that remain connected to the total number of residential customers.

Q. I suppose the same observation applies to your statement that the saturation percentage in respect to electric refrigerators was approximately 87 per cent.? A. That is correct, yes.

Q. You testified that the problem of street lighting was a highly specialized problem, and you described somewhat in detail the procedure followed in attempts to sell street 7760
lighting systems to small cities. Is that work all handled under your direction? A. Yes, sir, the work of the surveys, the layouts, the proposals, and the sale of that final plan is handled under my direction.

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Q. Your division handles appearances before municipal councils or local governing bodies that may be necessary in that connection? A. If we are asked to do so, yes, sir, we do; yes, sir.

Q. That is not handled in any instances by the executive officers of the company or by the attorneys of the company? 7761
A. "Any instances" is a pretty broad statement, and I can't make that general statement. But not to my knowledge I can say.

Q. I believe that you testified you entered the service of Union Electric Company of Missouri in 1907 as manager of the electric automobile department? A. That is correct.

Q. Had you had any connection with the public utility business before that time? A. I graduated and went directly to the Burlington Railroad. I graduated in 1896 and

7762 entered the service of the railroad after two months' summer vacation, and was continuously with the Burlington Railroad until I transferred to the Union, and I have held but two jobs in my life.

In the Burlington Railroad my experience was first as a clerk in the advertising department, then assistant to the advertising manager, and then traveling passenger agent in the most densely populated territory that the Burlington had.

7763 Q. Then, other than with the Union Electric Company Group, and the special work that you did in Milwaukee, con-

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cerning which you have testified, you have not been otherwise employed at any time by the North American Company or by any of its other subsidiary companies? A. When you say "employed", do you mean paid money by them?

Q. Yes. A. No, as far as I know I have never received a check from anybody except the Union Electric Company of Missouri and the Milwaukee Electric Railway and Light 7764 Company. But to be technical, if my salary is apportioned on work that I do for these other divisions, then I would say that from a salary standpoint I must be employed.

Q. But as to that apportionment, you do not know? A. I do not know, I can't answer that.

Mr. Browning: That last answer of the witness was relating to other members of the Union Electric Group, I take it.

The Witness: Entirely.

By Mr. Binford:

Q. And now you testified yesterday in respect of developments fostered by the Union Electric Company Group as to the melting of gray iron? A. Yes, sir.

Q. I believe you stated that St. Louis was one of the first cities where that was successfully carried through? A. Yes, sir.

—3,277—

Q. By means of an electric furnace? A. Yes, sir. 7766

Q. Where was that process originated? A. At the McQuay-Norris Piston Ring Company in St. Louis.

Q. However, it had been originated, that is to say the method, before your company adopted it, had it not, and fostered it? A. I may answer that question in this manner, that the industrial heating engineer employed by our company at that time told me that that was the first installation of an electric furnace for the heating of gray iron for the type of iron that was desired, at any place in the United States. I do not know that to be a fact from personal knowledge. 7767

Q. And you don't know where the idea came from? A. No, I can't tell you where the idea came from.

Q. Now, as to a second development of which you spoke, namely, infra-red heating, I believe you stated that that was developed in the Ford Motor Company plant? A. Yes, sir.

Q. And thrown open to the public? A. That is correct.

Q. Since which time your company has promoted its use? A. Extensively. Possibilities of that type of installa-

—3,278—

7768 tion are limitless, and we are working on innumerable different jobs, some of which are entirely original. There is a job going on in St. Louis today, which I cannot speak of, but it has to do with the preparation of mirrors in which infrared heating is concerned; that, if successful, will revolutionize the industry.

Q. Now in speaking yesterday of the industrial heating division of your sales organization, you said: "The results of the promotion by this division I can sum up very quickly",
7769 and then you continued as follows:

"The load in ten years has been increased by 27,713 kilowatts, and at the present time, that is, as of January 1, 1940, stands at 83,815 kilowatts."

You do not mean to indicate, I assume, that that increase in load was due solely to the promotional activity of the particular sales division which you mentioned? A. The word "solely" makes me answer that no, but I will say that that load, a large portion of it, a very large portion of it, is due to the promotional and intelligent information and advice given to manufacturers by the industrial sales force
7770 of the Union Electric Company of Missouri.

Q. Isn't it true that in the past ten years, industrial loads throughout the electric public utility industry in general have risen at a somewhat comparable rate? A. I don't know the percentage at which it has risen, but you are talking now

—3,279—

of a specialized load and not of a general load. You take the general load in the industrial business and it goes up, but when you talk of industrial heating, it is another matter. Now, if you are referring just to the work done by the indus-

trial salesmen, that covers preliminary work on heating as well as the general power work, and of course that man has not been responsible for all of that load. He may have been responsible for a very large percentage of that load, because there is nothing but 50 kilowatts and up in there. And when he goes into a factory and shows a factory manager how to change from one process to another, which uses the electricity, he is only one factor in the ultimate change that is made, but he is quite an important factor, and we try diligently to be the original factor in that, by bringing to the 7772
attention of these manufacturers the possibilities of a change from some other type of power or heating or lighting, or air conditioning, and so forth, to the modern electrical type.

Q. But you do not know, do you, whether the particular increase in this specialized load for the past ten years in your group is materially higher than the growth of the same specialized load in the industry as a whole? A. Now before I answer that, I am somewhat confused in reference to your figures and statement. If you are speaking of the industrial sales staff and their achievements, that is one thing. If we are talking about the industrial heating job, that is a totally 7773

—3,279-A—

different group, a totally different method of operation, and I don't know which one to talk about.

Q. Will you please turn to the transcript of the testimony of yesterday, at page 3,206 and toward the bottom of the page you will notice the figures which you gave yesterday. A. This is in reference to the industrial heating load.

Q. Now that is the load of which I have been speaking. A. Well, you see I am speaking of two different loads. I

7774 *Charles E. Michel—By Respondents—Cross*

have been talking of the general power load, which is gotten by the general power salesmen, and the industrial heating load, which is gotten by the industrial heating division, and this has to do with a highly specialized type of operation.

Q. Well, is it clear now of which load I am speaking? A. It is.

Q. Now with reference to this specific load, I again ask if it is not true that the increase during the past ten years in the industry as a whole, of this specialized type of load, 7775 has not been somewhat of the same order as the increase as shown by your company? A. I can't answer the question, I don't know the national figure on the increase in industrial heating load, and I coulda't answer it unless I did know that figure.

Q. Therefore, you would not, on the basis of your present information or lack of it, claim that this increase was

—3,280—

unique with the Union Electric Group? A. Well, my lack of information has to do with national figures, which I don't carry in my head. That is almost impossible. I do believe 7776 that the achievements of the St. Louis industrial heating group have been outstanding when you consider the type of the city, of its industrial life, and the lack to a large extent of users of very large furnaces, such as are found in some of the eastern cities, such as Pittsburgh, and places of that kind. We have not that type of load available to us, but when you consider the type of load that is available in St. Louis, I think that they have done an outstanding job.

Q. You would say, then, that each territory served by a utility must in general be judged by its own peculiar

characteristics, is that true? A. I would say that that is true, when you are talking again of specified loads at this time, and that is what we are discussing, as I understand it, and that is true, because it is perfectly obvious that if there does not exist in the territory the types of business that can use very large electric furnaces, and other special equipment of that kind, that that utility simply can't pick up additional industrial heating load to the same extent that it can be picked up in some other district that happens to be saturated with the type of business that uses that type of 7778
furnace.

—3,281—

Q. The same thing is true, is it not, as to residential loads, particularly when you have such type of territory as you described in the rural area near the Ozarks? A. What do you mean by "the same thing is true"?

Q. That is, as to each territory having its own problems which are very distinct from the problems of another utility, let us say. A. The basic, fundamental problems are much the same, but they are definitely influenced by the type of community that is to be served, yes, sir, that is true. 7779

Q. You spoke yesterday, and amplified your remarks this morning on direct examination, in respect to the LaClede Power & Light Company's operations. A. Yes, sir.

Q. The operations of that company are in direct competition with the operations of the Union Electric Company of Missouri in the city of St. Louis, are they not? A. That is correct.

Q. That their lines are parallel to each other? A. Through a certain section of the city. As I believe I have

7780 already testified, in the southwest section of the city, where the density of population is not what it is in most other sections, they have no lines at all, they haven't extended their lines into that territory.

Q. Do you cooperate with that company in advertising, or otherwise? A. I do not.

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Q. I presume they also advertise, or do you know? A. No, sir, the LaClede Power & Light Company does not ad-
7781 vertise and promote the use of electrical merchandise through the residential customers in the manner in which I am talking about.

Q. But they, I would infer, probably benefit from your promotion along those lines, is that correct? A. You put your finger on it.

Q. Now you spoke of the program of the Union Electric Group, of rural electrification? A. Yes.

Q. And described the methods used in promotion and in extension of lines? A. Yes.

7782 Q. This extension of rural electrification has been primarily from the St. Louis area, has it, rather than from Keokuk or somewhere else? A. You mean the extension into the rural districts?

Q. Yes. A. In the Missouri territory, you mean, rather than St. Louis?

Q. I mean has it been in the Missouri territory? A. It has been primarily there because the vast majority of our

—3,283—

rural territory lies in Missouri. We have a very, very meager amount of rural territory around the Keokuk prop-

erties, and a very small amount around East St. Louis and Alton. The territories there, both of them, are practically covered, because they are just little fringes around the cities. We have no real rural territories other than in Missouri, to any extent.

Q. Now your rural extension program around and out from the St. Louis service area has been, has it, into territory not served by any electric utility prior to your entry into the field? A. You mean that we have not extended our lines into some other utility's territory, and taken their lines? 7784

Q. Yes. A. No, excepting that we have acquired different utilities out in those districts, and as we have acquired them, we have extended the system out in those towns, and most of those were in little towns.

Q. But other than your acquisition of systems, your extension of lines has been to serve people not theretofore served by electricity, is that true? A. That is correct, sir, within the territory in which we hold certificates of necessity and convenience.

The Examiner: We will take a short recess. 7785

(A short recess is taken, after which the hearing is resumed.)

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The Examiner: Let us resume.

By Mr. Binford:

Q. Now in connection with the rural electrification program, I believe you testified yesterday that your group caused a magazine, "Electricity to the Farm", to be mailed to 1,200 farmers, possibly, each month without charge? A. Yes, sir.

7786 *Charles E. Michel—By Respondents—Cross*

Q. Now by whom is that magazine published? A. It is a national organization, the name of which I am not familiar with. It is purchased by utilities throughout the country, has general information on farm equipment, and has an advertisement by the particular utility that purchases a certain quantity on the back page of the magazine. The name of the organization that publishes it, I am sorry I can't give you.

Q. That magazine is then purchased by private utilities throughout the country and mailed out? A. That is my
7787 understanding.

Q. Now just to clarify the record, yesterday, in speaking of the extensions which you had made into rural areas, you stated in substance that your men regarded it as prospective customers all persons within a thousand feet of the extension lines, and that as of the first of the year, 60 per cent. of all of these prospective customers, as so defined, had taken elec-

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tric services? A. Yes.

Q. I assume that you meant heads of households; you didn't classify people by number of persons but by house-
7788 holds? A. That is correct, and I would like to make a further statement with reference to that, that classifying them as prospective customers, and using the 1,000 feet figure was simply for the purpose of estimating the possible revenues from the line on the theory that we could make service drops for the 1,000-foot customers, whereas, if he was further than that, a further extension of the distribution system was probably necessary. There were more customers than that possible in the district, but those are for the purpose of estimating revenues from the extensions.

Q. I merely wanted to get the record correct as to what you meant by "persons," and I thought you regarded families as units. A. Yes, I was talking about houses.

Q. You identified yesterday Respondents' Exhibit No. 61 which was thereafter received in evidence, which is a graph showing certain comparisons in respect to residential service as supplied by Union Electric Company and subsidiaries, and on the other hand computed upon a national average. I believe you have a copy of that exhibit before you? A. I have. 7790

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Q. Now the greater portion of the residential service in respect both of kilowatt hours and of costs, that is to say receipts, rather, supplied by the Union Electric Company of Missouri and its affiliated companies in that Group, is supplied to urban customers, is it not? A. A great majority?

Q. Yes. A. That is correct.

Q. Is that true of the customers upon which the national average is computed? A. The data covered for residential customers was for urban, rural, non-farm and farm, where 7791 little or no irrigation is involved. That is the statement of the Edison Electric Institute in the bulletins from which these data were taken.

Q. So, taken as a whole, you would not necessarily say, would you, that the figures for national average and the figures for the Union Electric Group represent comparable classes of consumers? A. In the absence of definite knowledge on the percentage of rural and urban customers in the national averages, I couldn't answer that question.

7792 *Charles E. Michel—By Respondents—Cross*

Q. That detracts somewhat from the significance of the comparison, then, doesn't it? A. No, sir. I, in my own mind, would say not because I think that the Union Electric Group territory is quite typical of the average. I don't know that,

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but that is my opinion.

Q. You spoke of sales to other utilities, do you handle those sales? A. I am involved in a great many of them. Many of them I handle personally. Some of them I do not.
7793 The inter-company sales I have nothing to do with, but the sales with the other utilities are handled by me in connection with the executive head of the division that serves the company, and I will say this, that the rates in connection with those different companies are a product of the sales department's thinking in connection with the rate engineers, and with the hydraulic men in the company having to do with our water power plants and so forth. I am intimately connected with those sales.

Q. When you speak of the intercompany sales, do you include only those companies which you have identified as
7794 being within the Union Electric Group, as you have used the term? A. Now I can't make the definite statement on that. We have on our statement "intercompany sales", and I, without guessing, could not tell you precisely what companies are involved in that "intercompany sales". I can't answer that. I can get the information for you without any difficulty whatsoever, but I don't have it in my mind.

Q. You don't know whether Illinois-Iowa Power Company is one of those companies? A. I am not sure, that is the very reason I can't guess; I am not sure of that.

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Q. What are the utility companies, sales to which you do handle, what are the names of them, if they are not too numerous? A. You mean the utility companies to whom we sell service?

Q. Yes. A. I can give them to you.

Mr. Browning: Could you state what year the figures are for, or do you want just the names of the companies?

Mr. Binford: Just the names.

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The Witness: The names of the companies are as follows:

Arkansas-Missouri Power Company; City of Farmington; City of Kirkwood; East Missouri Power Company; Missouri Electric Power Company; Illinois-Iowa Power Company; Western Light & Telephone Company; Central Illinois Public Service Company; Iowa Electric Company; Iowa-Southern Utilities Company; Missouri Power & Light Company; Nauvoo Electric Light & Power Company; Van Buren Light & Power Company; Wever Electric Company; Denmark Light & Telephone Company; and the Town of West Point.

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By Mr. Binford:

Q. Other than the Illinois-Iowa Power Company, all of these sales are handled by you or under your supervision? A. To a greater or less extent. In some of the cases my work has been purely that in connection with rates. In other cases I have personally conducted the negotiations

7798 *Charles E. Michel—By Respondents—Cross*

with the executives of these other companies for the sale of that power.

Q. Now with respect to rates and rate changes, I gather from your testimony that your sales department has general charge of that work, of those determinations, is that true? A. That is correct, sir.

Q. How far does that work go, does it go to the extent of appearing before regulatory bodies for approval of changes in rates? A. If I may explain, the extent to which
7799 we appear before the regulatory bodies has been as follows: After rate changes have been determined on, regardless of the origin and the reason why the change, and the rate and statistical department of the sales department have worked up the rate, and have had it approved by the top executives of our company, we then take that rate up to the commission and say, "Now, to meet this situation (explaining it), this is what we propose to do; this is the number of customers involved; this is the type of rate reduction; how much it will be, and so on."

And by discussing with the rate engineers, primarily, of
7800 the commission, we find if they have objections to any features that we have in, or if they have other suggestions as to what they think we ought to do; and we come back, revamp and work over the schedule again to meet these suggestions, and get them approved again, and then we turn them in for regular filing, which is not handled by the rate and statis-

tical department.

Q. But when you spoke of "we" approaching the engineers of the regulatory commissions, do you mean you per-

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sonally or people acting under your supervision or control? A. I have done it, yes; I have done it on a couple of occasions when the commission has asked me to talk to them, but generally it is handled by the head of our rate and statistical division.

Q. Who is under your supervision? A. Who is under my supervision.

Q. Now you gave certain figures yesterday relative to rate reductions which were not wholly clear to me. You stated, at page 3,245 of the transcript of yesterday's testi- 7802
mony, "in the period September 1, 1919 to June 15, 1940, there were 82 reductions in rates made by the Union Electric Group".

Now in order to clarify that and for example, let us suppose that the Union Electric Company, and each one of its subsidiary companies concurrently made a rate reduction. In your figures, would that be counted as one rate reduction, or would you include as a rate reduction the action of each company taken at that particular time? A. If it was applicable to the system, it is one rate reduction; if it is applicable to a group, then it is a separate rate 7803
reduction.

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Q. So that if Union Electric Company of Illinois reduced its rates today, and Union Electric Company of Missouri fell in line next week with a similar reduction, that would be included here as two reductions, is that true, whereas if they did it on the same day, it would be one reduction? A. No, sir, the date of the reductions which I have in front of me, and the type of the reduction, which I also have in

7804 front of me, does not confirm that. When it is a single reduction of a single rate, it has been called one reduction.

(Discussion off the record.)

By Mr. Binford:

Q. So that your testimony is merely confirmatory of the tabulation set forth in Respondents' Exhibit No. 56? A. Yes, sir, that is correct.

7805 Q. You also stated on the same page of your testimony of yesterday, to which I have last referred, that the total reduction is found to be $6,016,183 per year. How is that figure computed? A. That figure is computed as follows: When we make the rate reduction as of a certain date, that reduction is applied to all of the customers, month by month, for the previous 12 months, or a substantial sampling of all of those customers, and the reduction in the revenue received during those preceding 12 months by the application of the new rate is the reduction that we attribute to the introduc-

—3,292—

7806 tion of that rate.

Now of course it is generally very much smaller than the actual reduction because, when the increased service goes on, there are further reductions that take place, but it only has to do with the application of the new rate schedule to the previous 12 months' service, and how much revenue we would have lost had that service been billed under that rate.

Q. Now the particular figure of $6,000,000-plus, which you gave, referred to what year, if any particular year? A. That is a totalization of all of the reductions during the

period under discussion for the service used by the customers affected by the reduction during the previous year.

Q. For the period then from September 1, 1919 to June 15, 1940, approximately 21 years? A. No, sir. If you were to apply that figure, the very minimum you could apply would be $6,000,000 per year for the years that have passed since the date of reduction.

Q. As an average? A. No, sir, it is a totalization, it is not an average.

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(Discussion off the record.)

Mr. Hamilton: Mr. Michel, is the figure of $6,000,000-plus, which you have given, the sum total of the respective reductions shown on Respondents' Exhibit No. 56?

The Witness: Yes, sir, it is.

Mr. Hamilton: And is each reduction there shown based on a reduction of revenue which would have resulted, if the rates represented by the reduction had been applied to the consumption in the year immediately preceding the date of the reduction?

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The Witness: That is correct, sir.

Mr. Hamilton: So that the figures given are not on a cumulative basis?

The Witness: They are not.

By Mr. Binford:

Q. Now I believe you further testified that before rate reductions were put into effect by the Union Electric Com-

7810 pany or Group, a sampling was made for a period of a year or thereabouts of some ten per cent., in the case of residential customers, of customers affected, to see what the results would be before the rate was made universal? Is that true? A. That is correct, 10 per cent. per month for a period of one year. The actual process is to go to the customers' file and pull out every tenth card for 12 months, then tabulate the 12 months' consumption, and billing by month, not total, and that would make, for instance, 12 times the number
7811 of samples.

If there were 300,000 customers involved, the sampling would be 30,000 customers, and there would be 12 bills for each of the 30,000 customers.

They would then be analyzed and the new reduction, or rather the new rate, applied to each of those individual bills, and that result would then be extended to the residential group. A 10 per cent. sampling has been found, over a

great many years, to be rather startling in its accuracy.
7812 That is not true of the large power group, nor to a large extent of the commercial group. In the large power group the rate is applied to all customers affected for a year, month by month, and in the small lighting group, to a much larger sampling than 10 per cent. in order to arrive at the figures.

Q. Then you were not testifying that you put a new rate actually into effect with the customer, or with 10 per cent. of your customers for a year, before putting it in effect for the remaining 90 per cent.? A. Oh, no

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Q. So that you have no test which you can apply to show what increased service or increased consumption may result from a reduced rate? A. That is an intangible value in which I place but very little value. I am convinced in my own mind that reduced rates in themselves do not produce any considerable additional consumption unless the rates are fair, equitable and are followed with promotion and sales activities to put them over.

Q. But if so followed, as I presume is true in the case of your companies, hasn't consumption historically grown with reductions in rate? A. Yes, sir, definitely so.

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Q. You have spoken of interchange of information, adver-

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tising material, and other matters between yourself and the individuals in charge of sales in other North American companies. You spoke particularly this morning of the advertising character known as Reddy Kilowatt? A. Yes, sir.

Q. Which you have adopted, to some degree? A. Yes.

Q. Who originated that character? A. Ashton Collins is the owner of the device, and the patents.

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Q. Who is Ashton Collins? A. He is an independent operator working this little device throughout the United States to, I believe now, the very definite advantage of the utilities and himself.

Q. He is not connected with the North American System? A. Oh, no. His headquarter offices are in Birmingham, Alabama.

Q. How often do you have contact with the sales managers or the persons occupying that position, whatever their titles may be, of the other North American subsidiaries? A.

7816 *Charles E. Michel—By Respondents—Cross*

They are at intervals. I would say that on the average we are together about four times a year.

Q. I think the particular occasion that you last mentioned on direct examination, upon which you conferred with several sales managers of other North American companies, was identified by you as being at the conclusion of a

—3,296—

general gathering of utility men? A. Yes, sir.

7817 Q. What was that convention? A. It was the sales executives' conference of the Association of Edison Illuminating Companies.

Q. How often do conferences of that character take place? A. Once a year.

Q. Do you attend other conventions or conferences of utility sales executives? A. Yes, sir.

Q. What ones? A. Primarily the general sales committee of the Edison Electric Institute. I am a member of both of those committees. Then there are a number of subcommittee meetings that are held, and I attend those.

7818 Q. How many such meetings, including subcommittee meetings, do you attend during a year? A. I would say that at the present time I will average maybe four or five, possibly six, meetings in a year.

Q. And those meetings, I assume, give you an opportunity for conferences, aside from the general meetings, with the sales executives of the other North American companies? A. Yes, sir, they do.

Q. I think you made the remark, in speaking of your first

—3,297—

reactions to the Reddy Kilowatt character in advertising,

that no one man has a corner on sales ideas? A. That is correct.

Q. You would likewise say that that would be true, that no electric utility company has any such corner? A. That is correct.

Q. Or any system of utility companies has any such corner? A. As I understand your question it is that neither any system nor any one utility has the corner on all the good ideas in sales promotion work?

Q. Yes. A. I would say that that is a very correct state- 7820
ment.

Q. I assume you derive benefits from these general meetings which you attend, or you wouldn't attend them? A. That is right, I do.

Q. You spoke in respect to this most recent meeting of yours with certain other sales executives of the North American System, of a special extension case upon which you were working, and which was mentioned, although not identified, by a speaker at the general meeting? A. Yes.

Q. And later discussed particularly with you by another 7821
sales executive of the North American Company who had a similar problem? A. That is correct.

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Q. And as a result of that conference I understood you to testify that you revised the proposal which you had made in respect of your case, to conform with the studies which had been made by the other gentleman of the North American System, of whom you spoke? A. The first part of your statement is correct. I revised it, but not to conform to his data.

7822 *Charles E. Michel—By Respondents—Cross*

It conformed to my data after I thoroughly understood the characteristics of the load, which were most exceptional.

Q. But his experience and studies were of aid to you in causing you to give further thought to the matter? A. Very definitely. I am quite sure that if I had not discussed that load with that executive and if he had not been entirely frank with me, that my company would never have been considered in the final location of that plant, and I am advised today that we are under very serious consideration, in fact there
7823 is only one other place that is receiving consideration at this time.

Q. How far had the other North American sales executive progressed with his similar case at the time you talked with him? A. He had already placed his proposal on the basis of his understanding of the peculiarities of their load, which I did not have, and it was in the hands of the prospective customer at that time, and he did not have the data with

—3,299—

him, but sent it to me when he got back home, with all of the details. Then, after I made mine, I sent him the details of
7824 what I had done.

Q. And you had already made a proposal of your own, which you were able to withdraw and amend? A. Well, I had made a proposal on a total misconception of the requirements of the customer.

Q. If it hadn't been for this meeting, then, it would appear that both of you would have submitted proposals which might have been slightly to your disadvantage, isn't that true, or have left standing proposals which might have been to your disadvantage? A. Well, that is a hypothetical ques-

tion that I assume is correct. If I hadn't gotten the information from somebody else, that is true, and I don't think I would have gotten that information elsewhere, because I had put the matter in the files.

Q. It never had occurred to you to make inquiry of any sales executive of any other North American company as to whether they had had similar experiences, prior to your submission of your proposal in this case, until this accidental meeting? A. Well, I wouldn't call it an accidental meeting. Frank and myself were sitting down and 7826
discussing the most intimate details of our sales operations, in St. Louis and Milwaukee. I am thoroughly familiar with the Milwaukee situation, and we were going into the most

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intimate details of our operations, going into a lot of facts.

Q. But this particular matter was brought into the conversation through a remark by a speaker in the general meeting, isn't that true? A. Yes, sir, and after he had made it I tried to identify the thing in my own mind, and I don't know today that I have, but I believe that I have, and then I was discussing it with Frank Coffin. 7827

Q. Are you familiar with the rates charged by the Potomac Electric Power Company to its customers? A. Well, I wouldn't say familiar, I have them, I have them in my files, and they have been the source of a good deal of study by my rate men, but to say that I am familiar with them, no, that is not a correct statement.

Q. Are you familiar with the method of sales promotion, particularly in respect of greater utilization of electric equipment, employed by the Potomac Electric Power Company? A. Yes, sir; within limits, that is.

7828 *Charles E. Michel—By Respondents—Cross*

Q. Will you describe very briefly what they are? A. Any promotion of the electrical utilization equipment for the home through the Potomac Electric Power Company's territory, as I understand it, is handled through an organization here in Washington. The name of that organization is in my files, I don't have it in my mind. But that is the promotion, as I understand it, the way they handle it. And

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the Potomac Company itself does not do any direct mer-
7829 chandising to its customers, leaving the merchandising to the dealers and so forth.

Q. Whereas your Group maintains the 26 stores? A. Maintains 26 stores.

Q. For the sale of merchandise? A. Yes, sir.

Q. Are you familiar with the rate structure of the Cleveland Electric Illuminating Company? A. Not to any greater extent than I explained in connection with the Washington operations.

Q. Could you state roughly how that rate structure dif-
7830 fers from that of the Missouri group of companies? A. No, sir, I cannot, I cannot tell you. It is in the hands of my rate statisticians who are constantly giving it attention. I read it, as I read the rates of all of the utilities in which I am interested, but I do not attempt to carry those rates in my mind. I have got enough trouble trying to carry my own.

Q. Your answer would be the same both as to merchandising methods and as to rate structure in the group of North American companies centering in Milwaukee, or is your familiarity with that situation greater than it is with the two which I have mentioned? A. My familiarity with Mil-

waukee formerly was great, I was in very close touch with

—3,302—

it. Today I am not in close touch with it to the extent that I was formerly was, and I would say generally that an attempt on my part to go into the details of their operations, would be impossible; I couldn't do it.

Q. In respect of rate reductions, and also of merchandising, do you keep in touch with the activities of companies in Missouri, Illinois and Iowa, which are not in the 7832
North American Group? A. I watch them, I learn them from the newspapers, and I learn of them from the Edison Electric Rate Book, and things of that kind, and I am constantly watching them, yes, sir.

Q. They are on file, I presume, in respect of rates at least, with the regulatory commissions? A. Yes, I assume that they are, but I don't get them from that source. I get them from the rate book published by the Edison Electric Institute.

Q. And that rate book covers the whole national field, does it not? A. It covers the national field. Of course, it 7833
gives the general information, it doesn't give specific information. The application of a set of rates out of that rate book, unless you knew all the underlying principles, is a most difficult task.

Q. How far is it from St. Louis to Keokuk, roughly? A. About 220 miles.

—3,303—

Q. Do you make frequent visits to that office? A. I do not, but my men do.

Q. How frequently do they make those visits? A. I have had one man up there for pretty nearly a month. I am getting tired of it right now, and I am going to get him back.

I have had three or four men up there on two or three occasions within the last sixty days, for one or two days.

I have had a couple of home economists up there.

All of these men have been doing training work with the group that operates up there, as well as dealer relationship work.

7835 I have had my merchandising manager up there for too long, I will say that, during the last sixty days.

Mr. Binford: Mr. Examiner, I have no further questions at this time, and I don't expect to have any further questions of this witness, but I would like to reserve the right to recall him for further cross-examination upon any particular point, if occasion seems to require it.

Redirect Examination by Mr. Browning:

7836 Q. Mr. Michel, in giving the distance from St. Louis to Keokuk, you were giving your present recollection? A. Just a round figure, out of my head.

Q. And you would yield to the atlas, would you? A.

—3,304—

Absolutely. I will say this to you, that I have driven it within the last two years, five times to my knowledge, from St. Louis to Keokuk in my own car, but I don't know exactly what the mileage is.

Q. In answering questions with regard to sales department personnel, you were not including the district managers

or local representatives whom your department advises and trains, but who are not directly within your department, is that correct? A. That is right, that in the figure of 302 they are not included.

Q. Does the total number of stores which you mentioned include all merchandise show-rooms throughout the system? A. Yes, sir.

Q. You were asked certain questions with regard to intercompany accounting practices on intercompany merchandise transactions, including whether orders were placed on 7838
a single contract. Do you know the facts with regard to that? A. I do not.

Q. Regarding this incident which you have described in some detail on cross-examination, the potential customer and the discussion thereof between you and the Milwaukee sales manager, and the assistance in interchange of information between you, would you have given that information to any non-affiliated company? A. No, I would not, any more than they would give it to me.

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Q. Would you have asked it of any non-affiliated com- 7839
pany? A. I would have thought it was rather impertinent to do so.

Q. You were asked as to your knowledge of the sales promotion work of the Potomac Electric Power Company. Do you attempt to carry every detail of every sales promotion policy of the other members of the North American Group in your mind for instant reference? A. I do not.

Q. Have you discussed the sales promotion policies of the other North American subsidiaries with their sales managers from time to time? A. I have.

7840 *Charles E. Michel—By Respondents—Redirect*

Q. In dealing with rates of other North American subsidiaries, do you attempt to carry all the figures and details in your mind? A. I do not.

Q. But you have seen their rates, and discussed them with the other sales managers, and the material is in your files? A. In special cases, yes, sir. I wouldn't say that that was the general policy, but that we do it constantly on different problems that come up.

Mr. Browning: That is all.

7841 —3,306—

Mr. Binford: No further cross-examination at this time, with the same reservation.

Mr. Browning: And as usual we object to the reservation.

The Examiner: Very well.

Mr. Browning: Is my understanding correct, that we now will take a recess until Wednesday morning, November 13, at 10 a.m.?

Mr. Binford: That is agreeable to me.

The Examiner: Yes, we will recess now until next

7842 Wednesday, November 13, 1940, at 10 a.m.

Mr. Browning: I might add just this, Mr. Examiner, that we will expect at that time to put Mr. Stokes on the stand for cross-examination.

The Examiner: All right.

(Whereupon, at 12:30 o'clock, p.m., the hearing in the above-entitled matter was recessed until 10:00 o'clock, a.m., Wednesday, November 13, 1940.)

—3,307—

7843

BEFORE THE

Securities and Exchange Commission

Docket No. 59-10

IN THE MATTER

of

THE NORTH AMERICAN COMPANY, *et al.*

7844

Hearing Room 622,
Securities and Exchange Commission Building,
Washington, D. C.
Wednesday, November 13, 1940.

Met, pursuant to adjournment, at 10:00 o'clock a. m.

7845

Before: W. W. SWIFT, *Trial Examiner.*

Appearances:

S. PEARCE BROWNING, JR., and CHARLES S. HAMILTON, JR., of Sullivan & Cromwell, 48 Wall Street, New York City, Attorneys for the Respondents.

RALPH C. BINFORD, and HERMAN ODELL, Attorneys for the Securities and Exchange Commission.

7846 *Stanley Stokes—By Respondents—Direct*

PROCEEDINGS

The Examiner: The hearing will be resumed.

Mr. Hamilton: I have just one or two questions for Mr. Stokes, if I may, before the cross examination.

The Examiner: All right.

Whereupon, STANLEY STOKES resumed the stand and testified further as follows:

7847 *Direct Examination by Mr. Hamilton (Continued):*

Q. Mr. Stokes, you have previously testified as to the town of DeSoto, Missouri, in illustrating the organizational set-up of the Union group, and you mentioned your local representative in DeSoto as a Mr. Ditch. I don't think you indicated how long that gentleman had been at DeSoto. A. Mr. Henry Ditch came with the Union Electric group in 1922, and has been located at DeSoto since that time with the exception of two relatively short intervals in which he was located at Festus, a nearby town. During those intervals,

7848 he was still employed by the Union Electric group on some construction work.

The general plan followed by the Union Electric group in taking over such properties as DeSoto was to attempt to utilize the local people insofar as possible, but in this particular case, the Monroe family who had been the owners of the property were unable to carry on the work satisfactorily

under our improved methods and different type of operations, and it was necessary to discontinue their service.

The previous operation had been somewhat haphazard and slip-shod and it was difficult to teach them the newer and better methods.

Q. Do specialists from the St. Louis offices of the Union Electric group supplement the work of the company's representatives in communities like DeSoto and Festus? A. They do. The Union Electric group has a number of specialized people who constantly keep in touch with the outlying divisions and particularly towns like DeSoto. For instance, our Mr. Carter Lewis, chief illumination engineer, has made 7850 seventeen visits to DeSoto and about eight to Festus during the past year.

Also, our chief hydraulic engineer, Mr. Davis, has made a trip down there to assist them with their water works pumping problems, and our commercial cooking specialist, and the merchandise manager and the man in charge of all of our air conditioning work, Mr. Freund, have all made frequent visits to that community and have assisted the customers in every way possible.

About the first of October, a woman home lighting specialist was detailed to DeSoto and has been there ever since 7851 and will remain there until the demands of the various customers have been met.

—3,310—

Q. And do power salesmen of the group likewise visit the town from time to time? A. Well, that is a regular routine matter. The power salesmen cover that district just as they do the other districts and contact the present power customers and prospective power customers to endeavor to develop additional business and to render service to that which they already have.

7852 Q. Did the former Consumers Electric Light & Power Company, which you testified previously served the community of DeSoto, render any such specialized services to the community of DeSoto? A. No. It would have been impossible to have rendered such specialized services. They were simply a small-town family and had no opportunity to learn such things.

As a matter of fact, they didn't know how to go out to get the additional load and if they had gotten it, their equip-
7853 ment, at the time the plant was taken over, would have been inadequate to carry it and they required a firm source of power to be able to handle such matters.

Incidentally, the Union Electric group had the money and, recognizing the necessity for a firm source of supply to DeSoto built transmission lines down there and connected the town with their large system, thus assuring an unlimited supply of power as far as DeSoto was concerned.

With such a supply of power and the knowledge of how to get the business, the town has prospered and has increased

7854 its load materially.

The original management was confronted with a pretty serious problem. To summarize it, if they had gotten the load, they couldn't carry it and they didn't have the money to build the plant to carry the load.

Q. You are now speaking of the former management? A. Former Monroe people—former owners. So that the net result has been the rapid improvement and development in the service rendered and a greater service being rendered which was not dreamed of in those days by the previous owners.

Mr. Hamilton: That is all.

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Cross Examination by Mr. Binford:

Q. Would you state your position with the Union Electric Company of Missouri? What is your position with the Union Electric Company of Missouri? A. Consulting electrical engineer is my title.

Q. What is your position with the other companies in the Union Electric Company of Missouri group as you have designated? A. The same position. Although I do not particularly utilize the title, my time is distributed on the work done for the other properties and I have the same functions to perform for the entire group that I have for the Union Electric Company of Missouri.

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—3,312—

Q. Do you mean that your salary is allocated to these various subsidiaries? A. Yes.

Q. Do you know how it is allocated? A. Well, from time to time I give the accounting department an estimate of the amount of work. It is usually based on our budget which is to be carried on in the different groups and that sets up a distribution which is adjusted from time to time.

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Where there is a specific work—what we call a work order—in progress, such as the Venice Plant No. 2, then my time is charged direct to that work order, but the miscellaneous general overhead is distributed on the basis as outlined.

Q. I believe you stated on direct examination, but I would like you to restate now: When did you come to work for the Union Electric Company of Missouri? A. I came to work for the Union Electric group in 1912.

Q. What were you doing before that time? A. I was at Missouri University; graduated from there in a five-year course with the degree of electrical engineer. During the summer prior to my graduation, I did some summer work out west just to make a little money to go to school the next year.

Q. Did you work for any subsidiary of The North American Company before you entered the employ of the Union

—3,313—

7859 Electric of Missouri? A. No. That summer work was with the Telluride Power Company, just as a student engineer.

Q. I think you described at some length the engineering work done in the interests of the Union Electric group as a whole as you designated the Union Electric group. Do you know how those costs are allocated? A. You mean the costs of my salary or time?

Q. I mean the costs of the entire operation that would seem to be for the benefit of the companies as a whole. A. All distributions are done on a cost basis. That is, there are no profits added, if that is what you mean.

7860 The total expenditures in my department, when distributed on the various companies, will be the same total figure as though we had done all the work for one company. That is, it is done on a cost basis.

Take, for example, one of my men. He has a specific job to do and his time is distributed on that work where specific work orders have been approved. Prior to the approval of specific construction work is where a good deal of our work comes in because we do some of the preliminary engineering, and that is carried as a general expense item and distributed

on the work, if it is a large enough job, later carried as a suspense work order and then distributed later.

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Or, if it is work that is studied but not carried out, that will be distributed probably in the most equitable manner. It may be in proportion to the construction budget of the various companies.

Q. What companies do you include within the Union Electric group that you speak of? A. Well, in our definition of the Union Electric group, I included the electric 7862
companies only in that particular definition. I can list them for you.

Q. That is to be taken as applying to all your testimony? A. That is right. We referred to the Union Electric Company of Missouri and subsidiaries and in that connection we meant all of the properties including the Union Colliery Company and others, but when referring to the words "Union Electric group," we meant only the electric companies.

Q. So you didn't include the St. Louis County Gas Company? A. Not in the terminology of Union Electric group. 7863
When I referred to the gas company, I spoke of it by name—that is, to the St. Louis County Gas Company.

Q. I gathered from your testimony that the Keokuk Plant supplements the steam generating plants in Missouri. A. Yes.

Q. In a way that permits the more economical operation of the other plants, is that true? A. The Keokuk hydro

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7864 *Stanley Stokes—By Respondents—Cross*

plant is a generating plant for the group of companies just as the Osage hydro-electric plant is a generating plant and just as the steam plants are generating plants.

The whole taken together generate the power and it is all on a common transmission line and high voltage tie system, so that they are operated, each, for the best effect at the time. We don't distinguish between the Keokuk plant or the Osage plant or steam plant.

7865 They are operated as a system group of plants for the best over-all economy.

Q. The same thing would be true if the Keokuk plant were a thousand miles away rather than 200 or something like that? A. Well, you couldn't—that is a hypothetical question—well, you couldn't transmit the power a thousand miles so I wouldn't know hardly how to answer that question. The losses would be prohibitive if you could.

Q. At what point are the losses prohibitive? A. Well, it is difficult to specify a particular point at which losses become prohibitive. The ordinary design of a good transmission line or power transmission is to design for ten per
7866 cent. losses or slightly less on the peak.

The losses on the Keokuk lines, with both lines in regular operation, run in the neighborhood of 5½ per cent. About 10 per cent. if one circuit were out of order.

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It is a normal transmission line design, corresponds to the design of our more recent lines to the Osage plant.

Q. You may have covered this in your direct testimony, I don't recall. When was the Keokuk property acquired by your group? A. As I recall, about 19—let's see. We had the

contract there in 1913, and I believe we acquired the ownership about 1926. I have that figure, but that is the way I recall it.

Q. Prior to that time, you operated without that reserve hydraulic power? A. Prior to which time?

Q. Prior to the time you acquired that particular property. A. No, we had a contract agreement with the Mississippi River Power Company. You see, that property could not function without the steam reserve plants into St. Louis and it was recognized in the beginning and the contract was 7868 provided between the Mississippi River Power Company and the Union Electric group to provide the necessary steam reserve so that the hydro plant at Keokuk could carry its rated load.

I will give you certain figures. The firm contract demand of regular customers, whose load can not be dropped, is 115,000 kilowatts and the capacity of the hydro plant under low water or ice conditions is 70,000.

The remainder has to be made up by a steam plant somewhere and the most economical combination was to utilize —3,317— 7869 those already available in St. Louis.

Coal was pretty high priced at Keokuk and freight rates were not favorable.

Q. Freight rates change at the Mississippi River, do they not? Freight rates change at the Mississippi River? A. Freight rates have changed, did you say?

Q. Aren't they based on the St. Louis area there? A. Well, I am not a specialist on freight rates, but you have group rates from Pittsburgh to St. Louis and from the east-

ern centers to St. Louis, but major group rates like that probably do not apply to Keokuk.

At least, I know that the cost of coal at Keokuk was one of the factors that made it attractive to use the steam reserve plant to St. Louis.

Q. What I was thinking of is this: Hasn't it proven more economical to transport coal by your own trucks across the Mississippi River than to have it shipped across direct or do you recall that? A. No, we do not haul it that way.

7871 We ship it and pay a twenty-five—formerly 25 cents a ton bridge arbitrary charge that now has become 30 cents a ton, but we do no coal trucking across the bridge, at least none of any consequence. It is shipped by railroad cars. The reason we ship any coal across is primarily because the generation on the Missouri side is tied up with the steam-

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heating load in the City of St. Louis as well as the fact that under some conceivable river conditions, it is possible that there might be some disturbance to submarine cables

7872 and we want to have adequate reserve in St. Louis.

We recognize that the cost of generating power in St. Louis is higher than the cost of generating it across the river by the bridge arbitrary charge.

Q. There is a bridge arbitrary? A. It is now, I believe, 30 cents. You see, the bulk of all of our generation is done on the Illinois side, the big plant being Cahokia.

Q. Is that plant on the Illinois side or is it rather in the middle, split? A. Cahokia is on the Illinois side of the river.

Q. Wholly on the Illinois side? A. You see, the river has boundaries set up there by an Act of Congress, known as harbor lines. The Cahokia Plant is located on the Illinois side of the river on one of the harbor lines.

Q. I believe you testified concerning some inter-company committees of The North American system and your attendance at such company meetings.

This proceeding was instituted, I believe, in March of this year. Prior to that time, how often did these committee meetings occur? A. We hold our committee meetings twice 7874

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a year.

Q. Twice a year? A. Yes.

Q. Do you also attend any meetings of engineers other than the inter-company meetings? A. Yes, I am a member of the St. Louis Engineers Club and some of the national societies.

Q. How often do they meet? A. Well, it depends on which ones we refer to, but, ordinarily, there is generally a Spring and Fall meeting or at least one meeting a year of any of the committees of any consequence. 7875

The most frequent, I believe, is about twice a year. I don't attempt to keep up with all of those meetings, of course.

Q. Do you take periodicals dealing with engineering and keep up with the advancements in the field generally? A. We try to keep up to date with the art. There are periodicals that run by my desk, usually subscribed for by the company, but I see such as I am interested in. Of course, I would like to bring out the fact that by the time the engineering

7876 *Stanley Stokes—By Respondents—Cross*

information gets into these periodicals, as a general thing, the job has already been done some time hence and that is an historical statement of what took place.

For example, on these standard matters where we have

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—sometimes those discussions have been going on for six years in various places and the information gets into the periodicals; it is relatively unsuitable for new design.

The art changes rather rapidly. I don't mean to say
7877 there is anything wrong with the article, but I do point out that they usually are a statement of historical accomplishment which, to one who is actively engaged in the work, is past history, and what he is interested in is how to do the next job.

Q. Do you use pulverized coal in your steam generating operation? A. We do almost exclusively.

Q. Where did that idea originate as far as you know? A. The development of the work on pulverized fuel, as such, was done at Milwaukee by the company which is now the
7878 Milwaukee Electric Power Company.

Q. That is where the idea originated? A. It is. We spent very large sums of money on that development work. We were interested in it, followed it very closely and found that it was suitable for our coal, which we had had considerable difficulty burning on stokers because of the high sulphur content, and we watched those developments at Milwaukee with much interest.

I made a trip up there to the Lakeside Station to see the thing in operation when it had not been going very long and we found that it would work on our coal. We actually

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tried it, took the coal up there, and it is the thing that

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permits us to get the capacity out of our furnaces today.

We have both systems in operation in St. Louis. We have both the storage system and the individual pulverizer. They both work very satisfactorily.

We have a certain personal preference for the individual pulverizer, perhaps because we did a little development work on that ourselves.

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Nevertheless, we have under design and construction, a new plant at the present time and we are installing individual pulverizers in that plant. That is the major point with the Union Electric group, because we do have to use the local Illinois coals that are not too distant and they slag at relatively low temperatures and the pulverized firing is undoubtedly without any question the solution to the proper burning of that particular fuel and that represents—roughly speaking, 80 per cent. of the power generation is in the boiler room, 80 per cent. of the operating costs, so those things are really of some importance.

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Q. Are you familiar with the methods used in reference to the fueling in the Cleveland Electric Illuminating Company? A. Yes, they have a very modern and very attractive plant out at Ashtabula. I have visited that plant out there. They have very successful operations.

Q. How do their operations compare with yours? A. Well, Cleveland's over-all B. t. u. economy at Ashtabula, is

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slightly better than ours for two reasons: First, that they have a better grade of coal and it costs a little more and

they can afford to burn it a little more efficiently—spend the money to do it, I mean—and, second, they can get a better load factor on their plant on the average, because they are a steam generating system and do not have hydro power. We have to always design and operate our plants to get the minimum annual total cost of power, not merely the minimum annual operating expenses.

We have got to watch our fixed charges. Where part of your power is produced from hydro power and where your
7883 fuel cost is relatively low, you can't afford economizers and other devices for obtaining the highest efficiency.

We are attempting to install what we think is the most economical plant for our district right now, and we are not going to the maximum steam pressures or temperatures because the cost of our fuel does not justify it.

The added fixed charges more than outweigh the B. t. u. economy. So, in answer to your question, I think that Cleveland does a very handsome job in their generation out there. They have a plant at Ashtabula, Avon, and Lake Shore there, which are very creditable plants and, particularly, I have
7884 to admit that so far I haven't been able to obtain quite as low cost per kilowatt as they get.

We have severe foundation conditions to meet. We have

from thirty-six to fifty foot variation in head on the river and those plants up there are located on a very simple solid rock foundation with the lake level practically constant, so those factors all have to be taken into account in any such comparison.

Q. It seems to be, then, from your remarks, that each public utility located in a particular geographic area can not

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benefit so very much from the experiences of others because of its own peculiar situation, is that true? A. I wouldn't generalize and reach any such conclusion as that. The type of plant at Ashtabula is such that if you were to go through the plant, being a non-technical man, I would say you would think it was the same type of plant as you were looking at in St. Louis.

The only difference is, there are certain refinements which we would put on immediately if the price of coal went up and which we have made provision for in certain cases, 7886
and, if I were engineering the Ashtabula station, I would do what they are doing, and if they were engineering the St. Louis station, they would do what we are doing.

I am talking about the refinements which are gone into to get the minimum over-all cost including fixed charges, making such allowance as is proper for different prices of fuel. For example, in the St. Louis district, alone, if, by reason of some change in coal prices, the very low grade fuel there were to be suddenly decreased in price and if the

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better grade of Illinois coal were to increase, we might have to change our present policy, redesign the plant a little bit and arrange to burn the very worst fuel if it gave the lowest annual over-all cost.

Q. Of course, you wouldn't say that the problems of each locality are peculiar to themselves? A. The foundation conditions may vary in different localities, as I have indicated, but the general problem of manufacturing steam power is not particularly different.

For example, they can find out what things have worked well at Ashtabula and apply them at St. Louis and if we find something there that is particularly effective in St. Louis, they can apply them there.

The only difference, after you once get your plant built, in building it you may have some foundation differences. That is a relatively small percentage of the total cost. Once you find it built, the only difference I know of that affects the power production is the temperature of the condensing
7889 waters and the price of fuel.

Q. Outside of The North American System, do you know what companies now use pulverized fuel? A. I know that the pulverized fuel equipment in regular manufacture is available to other systems if they want it. I am not particularly familiar with very many other systems in detail. I

just—I do know that there are others who use pulverized fuel but I am not particularly informed as to just what plants—

Q. (Interposing) What engineering developments in your
7890 system have you adopted from other systems, non-North American systems? A. I can't specifically mention one right this minute. I have very little contact with these other systems and when you say "engineering developments from other systems"—could you illustrate, perhaps, what you mean a little better by mentioning some particular type?

Q. Any source other than within The North American system. A. Well, it is a little hard to say what you consider an engineering development, but each year the refinements and changes that are made in the art we adopt them.

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For example, if improved metallurgy were to be developed by the manufacturer, next year he would incorporate it in a turbine and when we bought the turbine, we would get the benefit of that development, obviously; but to say that we have adopted an engineering development, as such, from some other company, I can't recall such a case.

Q. Yet, you do, I imagine, try to keep abreast of developments in the field as a whole rather than confining your knowledge to your own system? A. We, as I said before, do attempt to keep up with the times.

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Q. Prior to this particular trip of yours to Washington, that is to say, on your trip here for direct examination, when was the last time you were in Washington? A. I can't recall exactly what—I was up here, oh, it may have been five or six years ago.

Q. When was your latest trip to Cleveland? A. Oh, I get up to Cleveland at least once every other year on the average.

Q. And to Milwaukee? A. Milwaukee every three or four years. I have been up there since the Port Washington station has been in regular operation and visited and saw it. It didn't get into operation until 1932, so it must have been three or four years ago. I made a two-day inspection up there at that time and went over the plant very thoroughly.

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Q. I don't believe you testified as to public relations with the Union Electric Company of Missouri or that group, did you? A. No, I did not. I am engaged strictly in the technical field. I will say, though, that I have been employed there for twenty-eight years, lived in the city, and I believe

that the general attitude of the public toward the Union Electric group is very favorable.

Q. Upon your direct examination, which consumed several days, you, of course, just to get it in the record, referred

—3,327—

to notes. You spoke from notes on your direct examination? A. I did, and I also discussed it otherwise. I used notes where necessary.

Q. You described in great detail the operation—mechani-
7895 cal operation—of the plants in your system and of the transmission and distribution lines; is that operation peculiar to The North American group, or is that, possibly, common to most modern utility set-ups? A. It is not common to most modern utility set-ups. There are, of course, some companies who have both steam and hydro plants and each one has his problems and does his best to solve them.

We have worked out the methods that are in use there in St. Louis, by a number of years of experience, making little minor corrections as they show improvement.

The man in charge of hydraulic operation, Mr. Davis,
7896 started with the Mississippi River Power Company in the beginning of their operation and was very successful in handling that plant and when we acquired that property, we made him the chief hydraulic engineer for the company as a whole and that does represent a good many years of experience in the particular type of work.

Q. The acquisition of the Mississippi River Power Company by the group was prior to your incumbency in any position with the Missouri Electric—Union Electric Company

—3,328—

of Missouri? A. I didn't hear the question.

The Examiner: Read the question.

(Whereupon, the pending question was read by the reporter.)

The Witness: It was not. I came with the Union Electric Company of Missouri in 1912. If I understand the question now, I said that the acquisition of the Keokuk property by the Union Electric Company group was prior to my incumbency with the company.

By Mr. Binford: 7898

Q. The Mississippi River Power Company—

Mr. Binford: Read the question again.

(Whereupon, the question was read by the reporter.)

The Witness: I think I understand the question. The approximate date of the acquisition of the Mississippi River Power Company by the group was, as I recall it, about 1926, the original contracts having dated from about 1913. 7899

I came with the group in 1912, some fourteen years prior to the acquisition of the Mississippi River Power Company by Union Electric Company of Missouri.

By Mr. Binford:

Q. Are you familiar with the accounting matters of your companies? A. Only in a general way, such as is necessary for an engineer to know and carry on his work successfully.

7900 *Stanley Stokes—By Respondents—Redirect*

Q. Are you familiar with the Federal Trade Commission's investigation into holding companies in general, made some years ago? A. No, I am not familiar with that particular investigation. I read the newspapers and I knew there was a Federal Trade investigation, but my answer to that is No.

Q. Then, you wouldn't be qualified to speak as to a write-up that occurred at the time of the acquisition of the Mississippi River Power Company? A. No, I would not. I
7901 know nothing about it. I am not qualified to discuss that phase of the business.

Mr. Binford: I have no further questions.

The Witness: I would like to add that I do know from an engineering standpoint that the development of a company like the Mississippi River Power Company, in a virgin field without background of many years of experience in a particular operation, is a very difficult thing to do and we would expect it to be more difficult than to build the Osage project by the Union Electric Company of Missouri that would be an estab-
7902 lished firm, but I would not consider myself qualified to answer your question properly.

Mr. Binford: I have no further questions, but I would like to reserve the right to recall this witness for further cross examination, if the examination seems to require it.

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Redirect Examination by Mr. Hamilton:

Q. Just to clarify the record, Mr. Stokes, you were asked, I believe, where the use of pulverized fuel had originated and

you answered that it had originated in the company now named Milwaukee Electric Power Company. A. Wisconsin Electric Power Company, I should have said.

Q. That is what I wanted to make clear. A. The company was the Milwaukee Electric——

Q. (Interposing) I think the record is clear on that now. A. I can't recall the exact name. I know the company operated under the other name for years.

Mr. Hamilton: That is all, Mr. Examiner, of course with the usual objection on this reservation. 7904

The Examiner: Very well. I will reserve my ruling until the real issue is presented.

(Discussion off the record.)

The Examiner: We will recess for five minutes.

(Whereupon a short recess was taken.)

The Examiner: I understand, Mr. Hamilton, that Dr. McClellan will not be available until 1:30. In view of that situation we will recess until that hour.

(Whereupon, at 11:05 o'clock a. m. the hearing 7905 recessed until 1:30 o'clock p. m. the same day.)

7906 *William McClellan—By Respondents—Direct*

AFTERNOON SESSION

(Whereupon, at 1:30 o'clock p. m. the hearing reconvened.)

The Examiner: The hearing will come to order.

Whereupon, WILLIAM MCCLELLAN, a witness called on behalf of the Respondents, having been first duly sworn, was
7907 examined and testified as follows:

Direct Examination by Mr. Browning:

Q. Dr. McClellan, will you give the reporter your name and address? A. William McClellan. My business address is Union Electric Company of Missouri, St. Louis, Missouri.

Q. You are president of that company? A. I am president of the Union Electric Company of Missouri and various companies in that general system.

Q. Will you describe for us your own personal history and your experience in the utility field? A. Well, I was
7908 born on November 5, in Philadelphia, Pennsylvania, 1872, and I went to the public schools of Philadelphia for my preparatory school work, and a large part of that also, owing to the fact that I had been brought up always with tools and things of that sort, my father being an engineer as well, I came naturally into it. Also, this school I went to, having quite a manual training department, I found myself suddenly transmitted to Swarthmore College for Engineer-

ing, despite the fact that I had never been to college myself,

as instructor of engineering. It was really for that purpose, which, at that time, as young as I was, I was well qualified to do. That was '90 or '91.

From there I went to Reading, Pennsylvania, primarily to do some testing on Neversink Mountain Electric Railroad —that is a mountain railroad over one of the mountains near Reading, Pa.

While there, they elected me again because of manual training and my mathematics—they elected me a teacher of mathematics and of manual training at the Reading High 7910
School and I stayed there for seven years, and at that time I decided that I had better go to college, so I entered the University of Pennsylvania, graduated in 1900 with a degree of Bachelor of Science and at the same time had a scholarship in mathematics, honorary scholarship in mathematics awarded to me. But, instead of that, I remained at the University as instructor of engineering physics from 1900 to 1905 and, while doing that, I spent my time working for a degree of Doctor of Philosophy, which I got in 1903, majoring, as we use the term at the University, in physics.

Then, during that time, especially with my summer vacations, I worked a great deal for the Philadelphia Rapid 7911
Transit Company, which was the top company, main company, of all the transit lines in Philadelphia.

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The result of that was that when the summer vacation didn't finish some of the work, they asked me to stay and I did stay throughout the year, for two or three years, as engineer in charge of construction, building power houses and some pole lines, doing rebuilding power houses under load,

and sub-stations, things of that sort—all the things that go —car-barns for the company—largely construction work, because that was my job.

In 1905 I decided I wanted to go to New York, so I obtained a job in New York with Westinghouse, Church, Kerr & Company, which, at that time, was one of the important engineering firms of the country, ranked at the very top of those engineering firms, my object being to go to New York and get a chance to get acquainted with organ-
7913 ized engineering as distinct from personal engineering.

I worked there with them on the new Pennsylvania terminal in New York City. I electrified the Erie Railroad —that was one of my principal jobs—from Rochester to Morse, New York; just the same kind of system as the New Haven. In fact, it was the first trunk line in the United States that had this modern electrification system on it.

I also did some other work for—underground cable work and redesigning sub-stations—65,000 volt sub-stations, which was a pretty high voltage in those days—in fact, one of the highest; and, doing all that sort of thing, of course,
7914 I ran some of the cars, for a while, when they put that elec-

trification in; got their schedules in for the operation, and things of that sort, and had a great deal of contact with all the operating people in the Erie Railroad in that particular locality.

My people, always having been in business for themselves, I was obsessed with the idea that I had to be in business for myself, so, in spite of the fact that the result of all of this work that I had done for Westinghouse, Church, Kerr

& Co., crowded as it was into a relatively short period, I was offered a vice presidency to stay.

As I say, I was obsessed with the idea of getting my shingle up, so I went into business, myself, with my good friend Campion, and we formed a firm of McClellan and Campion, which continued from 1907 to 1915.

Our work was construction work. The biggest job we did was a huge paper mill on the Delaware River, but we did a number of small things, and we made a lot of reports on certain things, possible water powers and things of that sort. 7916
Details escape me just at the moment.

And, then, of course, along came the panic of 1911, and we had our troubles. About that time I was offered the job as chief of the division of light, heat and power of the upstate—what we call the Second District Public Utilities Commission, which had to do with all the utilities in the State except those in New York City, itself.

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Q. This is New York State you are talking about? A. New York State I am talking about. And the Second District Commission had all of the cities in the State except 7917
New York City, at that time, and I was the chief of division of light, heat and power.

I was afterwards made chief engineer, and I was with them about two years and a half. I did make the proviso—and that is the reason I told you that my engineering firm went on—that I wouldn't have to interrupt that although, as a matter of fact, I didn't get to my private office very much.

7918 I had to devote all my time to commission work, although Mr. Campion, my partner, did do some work when the office was open.

My work with the commission, of course—I think most people will understand that all those companies, large and small—of course, we had Buffalo, Rochester and Syracuse for the large companies, and we had the smallest possible villages that we worked with—and gas, electricity.

My work there was on valuations on rate cases, on finance
7919 cases, on regulation of practices, on complaints and everything of that sort, and, of course, it gave me a very intimate contact with all of the companies of that state.

A large part of my time I was on the road working in their offices and, of course, we had general regulations also to work on.

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In the gas business, we got through some regulation for the standards of gas and things of that sort.

Well, at the end of that time, which was about 1913—I think the middle of 1913 just as close as I can remember
7920 it—I resigned from the Commission and went back to my private business and at the same time was made assistant to the president of the Buffalo General Electric Company, which was the company that had to do with the local distribution in the City of Buffalo, New York—of course, there were a lot of Niagara companies up there, having to do with larger power—but this was the company which served the City of Buffalo, itself, for its general lighting and power purposes of the citizens of Buffalo, and I assisted the president, participated in financing and advised in regard to

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rates and a lot of things that came up as assistant to the president—anything that he had to do, if he asked me about it, I would help him with it. It was rather valuable experience in actually meeting operating problems.

It was almost the first—my first experience in 1913—in actually meeting operating problems as distinct from construction problems and regulatory problems that I had had with the Commission.

There is a vast difference, because, when you solve an operating problem, it often means you have got to decide to 7922

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spend a lot of money on something, whereas, when you just —say, consulting engineer, for example—when you are only giving advice as to how a problem should be solved, you walk off and you don't have much responsibility for how the money is to be spent, but when you have a decision to make, that you have got to spend a quarter of a million dollars, if you make a decision one way, it broadens you considerably, and that was my first experience there.

So, I went back to the firm. We took in Mr. Paine as a partner, which is unimportant. He was a very prominent 7923 man at the time—he wasn't with us very long before he died. But we went back to a great deal of report work on valuations and rate cases and extensions, everything that has to do with the power—electric power—business, and during those days, I suppose, well, I traveled all over the country.

Of course, I was with the New York Commission, I was with the New Jersey Commission, Utah Commission, Colorado Commission, North Carolina Commission, Washington Commission. I think I was before the California Commission.

7924 *William McClellan—By Respondents—Direct*

I was working for some of the larger companies of the country in all of these special tasks as kind of special counsel, worked with all these companies all over the country and before these different commissions.

During that time, when I was still in private business, the New York Commission, which had changed—the personnel had changed then—that is, the men I had worked

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with had gone but other men were there—the Commissioners.
7925 They came to me and asked me to undertake for them the organization and progression of an investigation of the New York Telephone Company. So I did that as a private engineer retained by the Commission and organized a force.

I should say altogether we must have had 150 men finally working for me, accountants, engineers and we went through the New York Telephone Company from soup to nuts.

The result of it all was there was a reduction of rates by the telephone company.

I, also, during this time, was employed some time by the courts of New Jersey; the Commission of New Jersey, I
7926 think, asked me.

I always liked, personally, to be working for them all to keep up various points of view with regard to this industry, so I was glad to do that.

Then, in 1916, in the midst of my work, Provost Smith of the University of Pennsylvania induced me to take the job of Dean of the Wharton School of Finance and Commerce of the University of Pennsylvania in Philadelphia.

That happened about 1917 or '16. I can't think just when it was. I was there about three years, and when I

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went over there, again, I was supposed—I did keep my office open, but I didn't see much of it because, shortly after that, of course, the war came on and, while I was Dean of

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the Wharton School, I did some war organization work in Washington and organized the Intercollegiate Intelligence Bureau of which we had about two hundred colleges gathered together as members, their job being—our job being to furnish the United States Government departments with any kind of specialists they might want. They had all their system for getting general help, but they finally had to draft, you know.

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But, if they wanted a man who had a lot of experience in some peculiar gas and they didn't know where to find him, we would find that fellow. If they wanted a man to spend a lot of his time on some peculiar mineral and didn't know where he was, we would find that fellow.

If they wanted a man that did some particular kind of mining work, we would find him and we did that sort of work for the Government, which was afterwards taken over by the State Department and they operated it, put in a division that operated it instead of having it done by outsiders.

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Well, then, about 1919—not very far from the time of the Armistice, I resigned as Dean of the Wharton School and at that time became vice president of the Cleveland Electric Illuminating Company, which is the company in Cleveland that serves the whole City of Cleveland and other portions nearby with electric light and power service.

7930 *William McClellan—By Respondents—Direct*

I was very closely associated with Mr. Lindsay, the presi-
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dent of the company and who was not very well at times, so the result of it was I got, perhaps, more than the normal share of operating responsibilities, although, of course, he was well enough to be seen by me very frequently—daily, in fact—but I had a chance to, perhaps, do, as I say, more than the normal amount of operating work that would come to a vice president under a president.

7931 Before that, however, I had been with the Clevela l company, I think, maybe two or three years, just as a private engineer, and I did some work on valuations and did some work in a rate case with the Ohio Commission and did also some work—no, that was later, after I was vice president—with the City Council, and went pretty thoroughly into depreciation of poles and other parts of the property, we having made some very elaborate experiments there to get the truth of some of those things, and then, I, of course, with Mr. Lindsay, during—we had problems of financing that we came to New York City on, we had other large problems,
7932 and rate adjustments with the City Council there—both the steam heating and electric rates—and I was there with him until 1921.

I resigned because I didn't want to leave my home. I had been going out to Cleveland every week and had not been living there, coming home week-ends, and I didn't want to move my home to Cleveland, so rather than do that, I resigned, and went back then soon after that, formed the firm of McClellan and Junkersfeld in 1922.

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Mr. Junkersfeld was a man who had had a good deal of experience in engineering work with the Commonwealth Edison in Chicago and later with Stone & Webster, and he was my partner in this engineering firm, designed, principally, to do construction work, and we did a very large amount of large construction work.

We built the Cahokia plant in St. Louis; we built the plant for the Western Power Company, later part of the P. G. & E. in San Francisco; we built the plant for the Government in Saskatchewan; we built a lot of other plants, 7934
cement plants in the Hudson River, power plants for one or two of the paper companies in Canada.

I could go on with that sort of thing. We also made a very large number of reports—reports on all the properties of the Cities Service. We examined every one of their properties. That was made for one of the banking firms of New York. We made a very thorough examination of all the North American Light & Power Company properties leading up to what they were worth.

Of course, at that time, that report was made, not for The North American Company here, but for the Studebaker 7935
interests and others which owned it at the time. That was before The North American Company was interested at all in the North American Light & Power Company properties.

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A great deal of work of that sort, of construction work, regulation and things like that. Mr. Junkersfeld died in 1929—oh, it was during that time when McClellan and Junkersfeld was still going on that I was again recalled by the Commission of New York State.

7936 *William McClellan—By Respondents—Direct*

That was some years after I left it, to take their side of the case against the New York Edison Company in New York City, and I agreed to do it and spent about a year on that kind of work while I was, as I say, a part of the McClellan and Junkersfeld, and we again—that resulted in a rate reduction.

Q. During that period, did you act as consulting engineer for any other utility companies? A. Oh, yes. All the time I was working, principally with—a great deal of our work
7937 was with untility companies and I did—but this interlude of the Commission—for the Commission, of course, naturally, there was less of that kind of work I did.

I did most of my work with various companies, but there was enough of the other to keep me in touch with the Commission practice.

Q. Could you name some of the companies for which you did work during that period? A. Well, it is hard for me to distinguish between just that period and the period of Stone & Webster. The Long Island Lighting Company, the New York Edison Company, itself—in spite of the fact that I
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worked for the Commission, against them, I worked for the New York Edison Company, itself—and I think, at that time, we also had some work for the Public Service Company of New Jersey.

Those things escape my memory, but, of course, I referred to the North American Light & Power Company investigation. I just don't remember just now. Of course, during that time, we did a great deal more construction work than we did examination work.

Well, as I say, Mr. Junkersfeld died and I didn't want to marry another partner, and so we sold out to Stone & Webster, and, as a part of that arrangement, I went over to Stone & Webster as vice president of the Stone & Webster Engineering Corporation.

We did have—which was a subsidiary of Stone & Webster Engineering Corporation—we did have a company in Canada, which I followed a great deal, known as William McClellan & Company, Limited, with offices in Montreal.

As a matter of fact, that was kept up until later on when 7940
I came down to Washington as president. With the Stone & Webster Engineering Corporation, I just did the same sort of construction work, design work, consulting work, things we had done before.

A good deal of my time was then spent with the North American Light & Power Company system. I went out there nearly every week consulting with Lou Fisher, the vice presi-

dent in charge of construction and operation, on a great many problems in that company, and had a great deal to do with the building of the elevated and tunnel line, Illinois Ter- 7941
minal system in St. Louis and also with a big terminal building there and things of that sort.

Well, I kept with Stone & Webster until April, 1933, and Mr. Dame and Mr. Gruhl, who were officers of The North American Company, then asked me if I would come to Washington then as president of the Potomac Electric Power Company, so that ended my—I agreed to do it—that ended my career with Stone & Webster and I was with the Potomac Electric Power Company until I went to St. Louis as presi-

7942 dent of the company—until I went to St. Louis in May of 1939.

Q. Had you had any work on matters of Potomac Electric Power Company while you were with Stone & Webster? A. Oh, yes. I had had a great deal. In fact, in addition to some very general problems of not great magnitude in connection with some of our steam work, there were two very important problems.

7943 In the first place, I was called in there one day by Mr. Gruhl and Mr. Dame and asked if I thought a block rate system could be introduced in Washington. The existing organization didn't think it could and they had had, at that time, a flat rate system, so I was asked if I would go down to Washington, which I did, to introduce with the Public Utili-

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ties Commission, the block rate system, which is what we have at present, although not the same figure, the same system.

7944 So I came down here and spent probably six months working at this thing and finally went before the Commission with the evidence and found the Commission was quite willing to put in this system of rates—found the Public Utilities Commission was quite willing to put in this block system of rates as distinct from a single flat rate when it was properly presented to them, as I and some others did.

Then, of course—this was before I was president—I also helped with the details afterwards with the company.

The other major problem was the very rather complicated problem of this high line transmission line between Buffalo——

Q. (Interposing) Between what? A. High line, we call it—transmission line between Baltimore—I said Buffalo—Baltimore and Washington.

The Pennsylvania Water Power Company up here on the Susquehanna River had some extra power left over for various reasons that they couldn't dispose of.

As a matter of fact, it was rather due to the Pennsylvania Railroad changing its mind about certain electrification of its freight lines.

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The result was this left this power on the hands of the company and they came to the Washington Company and said, "We would like to build this transmission line down

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here to Washington, and we think we can show it will not only be profitable, make you some money, both by lifting off some of your peak, and by giving you an economy flow of power between the two companies."

Well, it met a strange and rather cool reception in the local offices. They just couldn't see it because, as a matter of fact, it wasn't very profitable, I will have to admit that 7947 myself. But The North American Company in New York looked at it, thought that it ought to be considered.

They couldn't make, at that time, very much headway down here. These fellows were all right, they were loyal, but they just couldn't see it, and so they asked me if I wouldn't come down—first asked me, "Do you think this contract ought to be made?"

Well, I studied it for two or three days. I said, "A contract ought to be made." They asked me, "Will you go down there and see if you can help the local organization

get a contract?" So, I said, "Yes," and I did come down here and spent a great deal of time.

I think that was again, perhaps, some four or five months before we got the contract signed and we argued over it, worked over it with the engineers of the Baltimore Company, soon discovered that we could not find exact profit in it—I mean, positively sure profit in it—so I finally induced them to make it what I called "a no-loss contract," fixed up

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7949 a contract so that the Potomac Electric Power Company couldn't possibly lose, the accounts would be kept in such a way that if the contract showed any loss whatever, they would pay us that loss in dollars and cents for the period of, I think, fifteen years, although I can't speak for the book on that.

As a matter of fact, it has since worked out of tremendous advantage for the company and has been profitable, and the Baltimore Company will never have to pay us any money so far as I can see, but it was a good way to make the contract under the circumstances.

7950 Some time after that, I was asked if I would come down as president and I agreed to it and I came down, probably, in April, 1933, as president of the Potomac Electric Power Company, and, as I say, stayed there several years and then, after that, went out to Missouri as president of the Missouri Company, which includes, so far as I can tell, most of my professional career.

Q. Are you a director of all of the companies in the Union Electric group? A. Oh, yes.

Q. Are you a director of any other corporations——

Mr. Binford: (Interposing) Object unless the Union Electric group is identified in terms of this witness. Various witnesses have spoken of the Union Electric group in different terms and I would like to have this witness clarify just what he means by the Union Electric group.

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By Mr. Browning:

Q. Let me define my question then. Are you a director of Union Electric Company of Missouri and its subsidiaries? 7952
A. Yes.

Q. You are a director and president of St. Louis County Gas Company? A. I am.

Q. Now, are you a director of any other corporations? A. Well, I am a director in Washington, here, of some of my old companies, the Potomac Electric Power Company, Washington Railway & Electric Company, Capital Transit Company, and I am also a director of the—business organizations I am talking of now—Riggs National Bank.

Q. Were you a member of the President's Commission 7953
on Muscle Shoals in 1925? A. Yes. President Coolidge appointed me on the Muscle Shoals Commission in 1925, one of five members on the Commission.

Q. Have you been a trustee of the University of Pennsylvania? A. Yes. I——

Mr. Binford: (Interposing) Objected to as immaterial and irrelevant.

The Examiner: Objection overruled.

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7954 *William McClellan—By Respondents—Direct*

Mr. Binford: Exception.

The Witness: Yes, I have been a trustee of the University of Pennsylvania.

By Mr. Browning:

Q. During what period? A. Well, from about 1929 to 1939, and various civic positions and things of that nature.

Q. I would like you to enumerate some of them.

Mr. Binford: Same objection.

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The Witness: I was president of the National Symphony Orchestra——

The Examiner: (Interposing) I am making the same ruling.

Mr. Binford: Same exception.

The Witness: President of the National Symphony Orchestra; director of the community chest and manager of the campaign one year; director of the Board of Trade.

By Mr. Browning:

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Q. In Washington? A. In Washington that is. In St. Louis my only position of that sort I was willing to take was director of the St. Louis Symphony Orchestra.

Q. Were you on the committee to revise the Government of the District of Columbia? A. Yes, I was appointed by——

Mr. Binford: Objected to as irrelevant and immaterial.

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The Examiner: I will overrule that objection.

Mr. Binford: Exception.

7957

By Mr. Browning:

Q. Have you been a member or officer of any engineering associations? A. Yes, I have been a director and vice president and president of the American Institute of Electrical Engineers. That was about 1922, I was president of that national organization.

Q. Are you a member of the American Society of Mechanical Engineers? A. I am a member of that. I was also president of the American Engineering Council here in 7958
Washington for two years. In fact, I got out of it just a year ago. I have also been a director of that and an associated group for a great many years.

Q. Have you written any articles which have appeared in technical magazines or papers before technical societies? A. Yes, I have written papers and general articles on technical subjects, participated in discussions and, generally speaking, in connection with these national—particularly, these national societies of engineering.

Q. Have you appeared as an expert witness before any public service commissions? A. Oh, yes, I testified, as I said 7959
in my testimony, before the Colorado, California, Utah, New Jersey, New York, Pennsylvania, various commissions over

various parts of the country.

Q. I believe you testified that you were a vice president of the Cleveland Electric Illuminating Company from 1919 to 1921 and that prior to 1919 you had done various consulting work for the Cleveland Company. That is correct, is it not? A. That is correct. I went out there—I think it was

originally suggested by Mr. Harrison Williams that I go out there and see Mr. Lindsay——

It was about the time I came back from my work with the Commission—and Mr. Lindsay and I got to be very good friends. He was president of the company, and he had me come out there and do a great deal of consulting work and things of that sort from time to time in connection with the Cleveland Company before I was vice president.

Q. Did you do any work for the Cleveland Company after
7961 you ceased to be a vice president? A. Yes. After I ceased to be vice president of the company, McClellan and Junkersfeld did a great deal of advisory work on the 70th Street Plant in the rebuilding of it and also on the Avon Power Plant.

In fact, we were consulting engineers on that. Those particular things I remember. I think we did some other things, but those two larger jobs I remember very well.

Q. Have you generally followed the development of the Cleveland company since? A. Yes, I have followed it since.

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7962 I get comparative reports as president of Washington and president of St. Louis. I see these reports come in. I keep a running knowledge but not a detailed knowledge of what we are doing.

Q. Did you ever have any contact with the Wisconsin-Michigan group of subsidiaries in The North American Company? A. Of course, I had some general contacts with them and I was doing all this work as McClellan and Junkersfeld, because Missouri had pioneered in powdered fuel——

Q. (Interposing) Because what? A. Because Wisconsin companies had pioneered in powdered fuel and we were get-

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ting the benefit of their pioneer work. So I used to go up and had rather intimate relations with John Anderson and others of the Milwaukee Company in connection with that.

Later on, they decided they wanted a very elaborate traffic survey made of the City of Milwaukee, and they had McClellan and Junkersfeld do it and we went up to Milwaukee and made a very elaborate traffic survey of the trolley lines and buses and parking conditions.

As a result of that, I had very intimate contact with Mr. Way and other officers of the Milwaukee Company. I got 7964
acquainted with conditions in the City. I appeared before the council once or twice for some speeches in connection with the report and I knew a great many people there, but so far as I remember, that is about the only business rela-

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tionship I had with the Milwaukee company.

Q. And you have since followed the development of the business of that group of subsidiaries through their statistical reports? A. Through their statistical reports and through meeting various officers, Mr. Van Derzee, Mr. Way and others at various times, talking things over with them. 7965

Q. Now, you testified that after some consulting engineering work for Potomac Electric Power Company, you became president of that company in 1933? A. That is right.

Q. And that you took that office at the request of Messrs. Dame and Gruhl? A. Yes.

Q. Who were they? A. Messrs.—that is the way the request came to me, through them, because they were either president and vice president or chairman and prsident. I can't think which. But the two highest officers of The North American Company at the time.

7966 At one time, Mr. Dame was president and Mr. Gruhl was vice president. Later on, I think, Mr. Dame was chairman of the board and Mr. Gruhl was president. That was just a change of titles.

The essential relationship was the same and they asked me to come down here and they really weren't satisfied with

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the way the organization was set up down here and just how it was functioning.

7967 Q. What? A. How the organization was set up in Washington and how it was functioning. They weren't fully satisfied with it and they asked me if I would be willing to come down and take hold of the organization in kind of—well, they thought I knew what it ought to be and they asked me to come down and do it, so I did and made some very, very extensive changes in the organization without, at the same time, introducing any new people at the top.

In other words, I changed the organization around a great deal and introduced a lot of new people down below to strengthen it and left what I thought, when I had to go 7968 to St. Louis—left what I thought was a pretty good organization.

Q. They told you that they expected you to deliver the goods when you came down here? A. Oh, yes. That is—just about, as I say, they expected me to put in a modern efficient utility organization in this company.

It had grown up, you see, under Messrs. Sinclair and others—it had grown up without taking knowledge of the advances of everything in the arts of organization. These men had been with these companies almost from the very

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beginning and they just simply hadn't gotten streamlined

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and modernized.

Q. Now, had you expected to stay in Washington? A. Oh, yes. That was the only reason I took the job. I thought I was going to stay here the rest of my life and when I got it organized, I thought I was going to be able to sit here and hit the high spots and enjoy life.

Q. How did you first receive any word that North American wanted you to go to St. Louis?

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Mr. Binford: Objected to as not relevant nor material to the issues in this case.

Mr. Browning: Mr. Examiner, I submit that it is entirely relevant. In the first place, we are tracing the development of this witness' experience within The North American system. In the second place, it has a direct bearing on North American's relations with its subsidiaries.

The Examiner: I can see where it might possibly have relevancy and I will overrule the objection.

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Mr. Binford: I wil withdraw the objection.

The Witness: I was called over, I think it was one Saturday night. I had noticed in the papers that trouble had broken out in St. Louis and that was all the information I had.

The next Saturday night following my noticing this in the papers, I was called by Mr. Fogarty, who was at that time president of The North American Company in New York, to meet him at the Union League Club.

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7972 *Colloquy*

I didn't know what it was for. I really didn't even suspect what it was for.

When I got over there, he said this trouble had broken in St. Louis, that Messrs. Egan and Boehm and——

Mr. Binford (interposing): Mr. Examiner, I would like to have this expression of this trouble clarified.

The Witness: Well, the charges had been in the
7973 paper that they had been collecting a slush fund not having it appear on the books and had been making political contributions which did not appear on the books. That is the substance of the trouble.

Mr. Binford: That didn't appear plain in the record.

The Witness: It didn't. I agree with you, sir.

He told me that, of course, at that time, he said, "We don't know anything about these charges; we have known nothing about it; but, in any case, for the benefit of the company, it looks as if Messrs. Egan
7974 and Boehm and Laun will retire from their positions and we would like you to go out there as president of the company and allow you to choose other help that you may need in connection with it."

Well, it was a startling thing to me, at my age. I hadn't expected to be shifted around like that. I had no desire for any further "goats' feathers", as Ellis Parker Butler calls them, otherwise known as "honors", but it seemed, from Mr. Fogarty's argument, to me that I was in a peculiar position to do it because

of my standing and experience, and so forth. Perhaps he was unduly flattering.

I didn't have to go, but after all friends of a good many years seemed to be in trouble and needed help, and so I finally, the next night—the following Sunday night—I went home and thought about it and talked it over with my family and I told them I would go out as president of the company.

At that time I took Mr. Woodbridge of New York with me as vice president, and Mr. Edward Gushee 7976
from Detroit as executive vice president. They came out with me at the same time.

Q. You had it understood that you were taking this St. Louis job as an emergency job of temporary tenure, is that correct? A. That was up in the air somewhat. I was taking the—of course I had to be elected president. You couldn't be elected to anything else, but it was announced that I was acting president and there was a general understanding that the thing could be cleared up in a short time and that I might come back and eventually—I wasn't permanently stationed 7977
at St. Louis, but as things developed, I am there for good—well, not for good, but I am permanent president of the company and no idea of changing.

Q. Since that time, have you been in charge of the management of the St. Louis group? A. Since that time I have been head of the management of the St. Louis Union Com-

pany of Missouri and its subsidiaries as well as the subsidiary of The North American Company, the St. Louis County Gas Company that we operate in St. Louis.

(Discussion off the record.)

7978 *William McClellan—By Respondents—Direct*

By Mr. Browning:

Q. I believe you testified about your work on the North American Light & Power Company properties. A. Yes, I got started with the general report on the value of the company before they took it over and it was on the basis of our report that they took the company over and then I stayed with the company, itself, for consulting work of various kinds.

7979 Q. As a result of this experience you have been working with North American properties for over twenty years and the course of your work has taken you over the entire system, is that correct?

Mr. Binford: I object to the question "as a result of his experience" he had been working, so and so. The question should be, "Has he been working such and such a length of time" and possibly——

Mr. Browning (Interposing): I will withdraw the question.

By Mr. Browning:

7980 Q. Does the management of a public utility involve diverse problems, Doctor? A. Oh, yes. Obviously it involves the most diverse problems, but my picture of the management of public utility problems boils down to three major problems.

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I consider the duty of the management, if it is going to be a successful utility, to preserve harmony or balance, if you say, among those three major problems and that is, first of all, the consumers, secondly, your organization, your personnel, your great thousands of men who have got to give the service, and then, third, of course, you have got the people

who supply the money. The people who supply the labor, the people who supply the money and the people who get results.

The great problem of utility management is to preserve some kind of management between those three forces that have to be satisfied.

The consumer, of course, wants the lowest rates and the greatest amount of service so that stands.

The personnel, the labor, they want the biggest wages they can get, the shortest hours; they are not unreasonable, but that is what they want. The biggest wages don't go with 7982
the lowest rates, necessarily, because, if you put the wage up too high, you can't get the rates down.

The man who is giving you the money, of course, that is the very peculiar thing about our industry which makes it different from most other businesses of the country, is that we are growing so fast. The result is that we are always needing money.

Every year we have got to invest a huge sum of money in

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the company.

We have to put this money in the company. Therefore, 7983
we are constantly going to the people for money. They want adequate return on their money. So these three groups of people don't all want the same thing.

They want things that may be a little bit antagonistic. The great big problem of management is somehow or other to keep the stockholders satisfied, to keep the rate-payer satisfied, and keep the great organization that works for them satisfied. They are not always wanting things that jibe together and, in addition to that, as I say, we have this great sum of money to be obtained every year.

7984 Now, there are problems, coming up under keeping the consumer satisfied that are very numerous. The first one, of course, is that the rate shall be satisfactory.

My own experience, no matter what else you do for a consumer, if he thinks you are charging him too much money, no matter how nice you are to him, it doesn't do you any good, so, therefore, you have got to have your rates right, first of all.

After you get your rates right, there are a whole lot of
7985 other things then. He wants service. He wants to think that you are interested in his problem, and we have an interest in that, too.

His lamps, everything he has got, must be working right

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and we are interested in that because, if they are not working right, if they are out for example, we don't get any kilowatt hours and it means a loss of money.

So we have a mutual interest in that sort of thing, so everybody in the company is trained, as far as it is possible in the organization, to make the customer feel that we are
7986 just not throwing the kilowatt hours at him, but we are interested in the way he gets it and how he gets it and the results that come from it.

We have got to train our organization to do it. When you come to the men, of course, everyone is familiar with the problems you have there. They want shorter hours. They want to be paid for holidays. They want time and a half for overtime. They want employment conditions fixed so that the older men stay on and the last man hired is the first man fired and all that sort of thing.

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All those conditions introduce a tremendous lot of problems that we are just constantly at work with and if they are not handled properly, the men aren't happy and if they are not happy, we don't get full loyal service out of them.

Well, we come to the kind of problems you have with the stockholders in keeping you supplied with money, even the bondholders, that comes through bankers and insurance companies, and we have to spend a lot of time getting the mortgages right for them.

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The average stockholder, no matter how good-natured he is, never thinks the dividends are as high as they might be. We have got to tell them they can't be any higher because we have got to do certain things.

There is such a thing as regulation in the world and we have got to teach him about that, because that sometimes interferes with it.

Those, as I say, are the major problems confronting the man in the utility business.

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Q. What do you consider, Doctor, to be some of the principal differences between a public utility and other businesses? A. Well, the first big difference is that owing to the way things have been organized in the world, through regulation, with Government approval and everything of that sort, the average consumer in the community must deal with us.

It isn't like buying gasoline; it isn't like going to a department store for shirts or anything else. The only place in St. Louis that a man can get kilowatt hours is either from us, the Union Electric Company of Missouri, or from

our small competitor, the Laclede Company. It is, of course, a small competitor, limited in its capacity.

That is the first thing. That means that, of course, customers relations amount to an awful lot to us. They are no more important to us in one way than they are with anyone else because, obviously, a department store that doesn't have good public relations, the people aren't going

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to come and buy from it. That is perfectly true, but never-
7991 theless, they will have at least a visible loss of business to correct them.

In other words, if they are sassy and not nice, why, gradually, they will lose the business.

We don't notice the loss in business because everybody has to come and take it. We might not get as much business, but it isn't quite so visible as it is to someone else that is losing.

As a consequence, that makes a difference.

The second thing is that the business—of course, you might—another thing we have is the reverse of that in a
7992 way. We have absolutely no way of refusing the customer. The customer comes to us; we must give him service; it is the law. It is the very nature of the—we are a public servant, from the old common law.

Then, the second thing is, we have no choice about the size of our business, provided the public chooses to give it. Now, a gasoline company, today, working on 10,000 barrels a week, their board of directors can solemnly meet. "Shall we go to 15,000 a week? No, we shall not go to 15,000 a week. We prefer, for our private benefit, to stay at 10,000." We have no such choice as that.

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This business comes to us and whether we like it or not, whether it is profitable or not, we must take it; we must provide the money to do it; we must provide the organization to give it and that is different from the average busi-

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ness, which has more or less control of its growth and size.

If the market is bad and they don't want to go out and get money, they will say, "Well, we won't grow this year." They have a choice. We have no choice about it at all, which introduces another tremendous group of problems.

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Right now we are projecting curves. We don't know whether to enlarge our power house or not.

If certain things happen, which look as if they are going to happen, we ought to do it. If we do do it and they don't happen, we will have a machine there that we can't use.

Now, we have no way of telling. It looks as if it would be needed, but if we put in $8,000,000.00, in that generator, which is about what it would cost, and events should turn where it is not needed, then we would have eight million stuck.

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On the other hand, if along came something in Missouri for war purposes that we had to confess we haven't the power, then we would be in a poor position. So that kind of problem to use judgment as to just how fast to increase your stuff—in normal times, it is not hard, but in special times, it is very difficult.

So that that is one thing that differs and, of course, all that means, as I said before, it means we have got to constantly go to the market for money to pay for all these im-

7996 *William McClellan—By Respondents—Direct*

improvements, which is different from the average manufacturing organization.

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The average manufacturing organization does financing now and then, chiefly when it chooses to expand its plant for its own reasons. We have to go whether we want to or not, because the public expands our plant.

Then, another thing that we have in which our business
7997 is different from any other—I don't think there is any other business in the country unless it may be some of the chemical businesses that might have something like that—that has in front of it what we call the electric age.

We simply don't know from year to year just what is going to happen in the business owing to the fact that inventors, in research work, work all the time.

Now, for example, we started out on electric light; they hadn't developed the motor. When they developed the motor, that caused a great growth in business, and that has gone on and gone on.

7998 We have had the radio; we have had all sorts of things of that sort adding to our load; all the gadgets in the house, sweepers, irons, do everything electrically.

There is nothing corresponding to that in any other industry. Do everything electrically. Everybody is inventing new devices. We don't use a garbage pail. They want us to have a device with a kind of grinder next to the sink and put it in it that goes down in soup somewhere. All that kind of thing.

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Then they are working at cold light. Now, cold light will take, perhaps, oh, it might come to take 10 per cent. Real cold light would take, maybe, one per cent., but semi-cold light would take ten per cent. of the energy of what we have been working on.

That would mean for a kilowatt hour you would get ten times as much light. We have got to think of that and that is on its way with this so-called fluorescent light.

Air-conditioning suddenly burst on us.

We were running along on a pretty steady even keel at 8000
that time, wondering where the next big bulge in load was coming from. Our air-conditioning comes on. That means we haven't any more off-peak. In Washington the peaks have vanished because the peak in summertime is almost as much as in wintertime, because of this air-conditioning.

What is going to follow air-conditioning I don't know. We have house heating. Inventors may find a way how to do it. So far they haven't.

So there is nothing corresponding to this continual growth in demand of this electric service in any other busi-
ness that I know of. We have got to guess and be ready 8001
for it.

Now, the other funny part of it is—that is different from other businesses—we haven't anything, so to speak, to give to anybody except the residence customers. What I mean to say is, we have got to get ready for this war, for example, but the Government can't use a darn thing we produce. I mean,

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we are auxiliary, so to speak, to every other business of the world. If you want shells, the Government gets the shells from the shell company, but we have got to give them power.

8002 *William McClellan—By Respondents—Direct*

We can't sell our kilowatt hours direct to the Government to be used as kilowatt hours. That is what I mean. There is nothing we can do with kilowatt hours except to get somebody to use them for something.

So the result is again it is just another example of the fact that other people are controlling our business so far as loads are concerned, so far as the demands are concerned.

Some fellow over here in a big factory may decide tonight to go on a double shift. Well, if it does, that wouldn't mean
8003 we would have to have any more capacity, but he would run night and day on the same capacity; that would affect us.

Some other factory may be doubling his demand. That would double the demand on our stuff. All that stuff we have to continually guess at and we have to be continually watching, which gives you an idea of the kind of organization we have got to have as distinct from any other manufacturers.

I don't know that there is any other—oh, yes, of course —I don't know whether I ought to bring it up before this body, but, of course, there is such a thing as regulation in
8004 the world, which is different from most other businesses, except the railroads.

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That is, lots of things we would like to do, we have to get permission to do, get approval for and all that sort of thing, which I am glad to say, most of us are in favor of, even though it is sometimes irksome and a great inconvenience.

It all arises, of course, from the fact that if you have got to get your kilowatt hours from us, it didn't take very long to learn that there had to be some kind of regulation under those circumstances. But it does make a difference.

Q. Do you feel that the development of the business has ceased? A. What?

Q. Do you feel that the development of the business has ceased? A. Oh, no. Oh, my, no. It certainly hasn't ceased industrially. Of course, if you look at the home, we are now doing everything, I think, that has to be done in the home. We are air-conditioning; we are doing everything that has to be done in the home now except heating the home, and that doesn't seem very near, but as soon as you step outside the home into the factory or into the office, there 8006 seems no limit as to what might have to be done.

New jobs for the electric power to do just the same as the phrase we have, "Do it electrically." Of course, some years ago we did none of that, but now we dry paints, all sorts of curious things. We find it has special advantages —the fact that it is light, it has certain radioactive effects

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while using the heat for drying. We find a lot of other things in it.

It is the old story, "Do it electrically." 8007

Now, we don't see the end of "Do it electrically." Just ahead of us there are a great many different things, none of which we see now, but judging from the way they crop up from time to time, there is no end to that development.

Q. Are all the employees of the company involved in your management problems? A. Oh, yes. Every last man in our organization we try to fill him up with the idea that he is part of the well-being of that company in how he behaves and how he acts.

Now, there are some of them, of course, that have direct contacts. We used to have the notion that reading a meter was something for any old man that could stagger around through cellars and places like that. We have learned that that meter-reader has a direct contact.

In the first place he enters a person's house in many cases —we are trying to get away from that by putting meters outside, but at present he enters a great many people's houses. Therefore, he must look—if we are going to have
8009 those people comfortable, he must look like an honest man; he must look like a clean, decent fellow.

In the second place, he gets into the house. He has got

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to be courteous because all the way from the president of the company down to that lowest official—and I imagine the meter-reader is what you would call one of the very minor technical people of the organization—from the president, however, down, there is a very subtle transfer of thought in the minds of the people.

8010 If they see nice meter-readers, courteous fellows, clean-looking fellows come into their houses, somehow or other they think that company must be pretty decent. They don't think it all out. Don't misunderstand me, but there is a very psychological transfer of attitude there.

If the president of the company and the vice presidents are interested in community affairs and have rather generous notions about things and deal with things from the community's side of the picture, in a generous way, in some subtle psychological way, they get the idea across that this company must be pretty decent and so the behavior of every

last man—you may think a bookkeeper sitting inside a cage, never seeing anybody of the public—my gracious! we have had a lot of trouble with that. If they are careless, if they don't realize, after all, that a customer getting a wrong bill, for example, from a wrong chapter in the book or something like that, may undo all the good work that some of the rest of us have done just because the people think—they have got the idea we are nearly perfect, then somebody makes a mistake down in the cage there, then you are not perfect

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and you have lost as much as you have gained, so everybody everywhere, we believe, and we try to fill them with the idea that they mustn't try to do anything particularly, but just must behave in public and do their work like upstanding decent fellows. That is all we ask.

We don't ask them to go out and do anything positive to sell the company, but just decent, upstanding, thoughtful, conscientious, honest. That is what we want.

Q. Is there difference between the localization and non-localization of various management functions? A. Oh, well, if you take a long string of management functions, there are 8013 some that can't be done any other way but locally. There are others that might be done locally, but not so well—and, of course, there are a great many others that just can't be done locally at all.

Q. Could you give us some examples? A. Well, I should say anything that has to do with the individual service of the consumer, that the consumer knows about, must be handled locally. I say, "What the consumer knows about." It is not what affects the consumer, but what the consumer knows about.

8014 *William McClellan—By Respondents—Direct*

Now, what does the consumer know about? Well, he knows about whether his lights flicker, for example. He knows whether his bill was bigger last month than it was this month. He knows whether his certain devices are working right—these sweepers and these irons and things like

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that.

He knows whether he is disturbed unduly by meter-readers; he knows whether when he gets his bill he has easy
8015 access of paying; he knows all those things.

Now, anything that has to do with that can only be handled with satisfaction locally. That is, where the consumer knows these things. For instance, you take—well, I think Mr. Stokes, if I am not mistaken, has given you a lot of data about a little town we had down south of St. Louis called DeSoto. It has been in the record.

It is a pretty good example, but if we do take DeSoto, now, there is a place that is half-way between the southern extremity—I don't know how many miles it is—forty or
8016 fifty—I have just forgotten how many miles it is down there, but it is long enough to be quite a distance away from St. Louis. It is even quite a distance away from what we call Webster Grove.

Now, those people down there—of course, all I know about the company is as it exists today. I do know something for the record and I think Mr. Stokes will tell you about it from the time he took it over.

I am not going over all that, but I do know today that if anybody in DeSoto—there is a fellow down there by the name of Henry Ditch. He has a couple of fellows helping

him. He stays in DeSoto all the time and he has a girl

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in the office that handles various things, also handles utilization equipment like heaters and things like that.

Well, if anybody, even if the lights go out in the house, of course word comes to Henry Ditch. Those people know him; he is in and out there all the time, so they call up Henry Ditch, and he has got to go down there. He says, "You must have done something; you must have short-circuited this." He sticks a new fuse and makes them happy 8018 and at the same time doesn't let them run away with the idea that it is the company's fault. He does it in a nice way.

He says, "You must have short-circuited something." He takes a look at the cords. Maybe it blows out again and then he knows something is wrong. So he hunts up the cord and he says, "It is the cord on this side lamp here."

Well, all that sort of thing is building up fine public relations and it is also giving us the kilowatt hours from that lamp with the least possible delay, so both customer and the company win.

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Now, then, the next time a woman has a range, maybe, and she starts to cook a dinner and the darn fool range goes out of whack and, of course, it is a Westinghouse or General Electric, and she ought to call them about the range, but she doesn't—she calls up Henry Ditch and he has to hustle out and he can fix it maybe and maybe he can't. If it is something that he can fix, why, he fixes it right there quickly, but maybe it is beyond him and maybe he hasn't

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got enough stuff in DeSoto to do it. If so, of course, there

is a problem that can't be handled entirely in DeSoto. It has got to be handled somewhere else.

You have got to go outside of DeSoto, maybe to Festus, which is the headquarters of the county division. Maybe they will have organization enough to take care of it; maybe they won't. Well, if Festus can't do it, he goes up to Webster Grove, which is the head of the whole county organization. Maybe something has happened there that Webster Grove can't handle. I can imagine examples.

8021 It may be that there had been a heavy windstorm that has blown down a lot of lines. Now, Henry can climb a pole and fix a wire that has broken because he is an old lineman. He used to work on the line; a class A lineman. He might fix that, but if there is a dozen poles and a lot of lines blown down, even Webster Grove might not be able to handle it.

They might have to call in the whole St. Louis construction organization to get two or three gangs down there and get all those poles up and get them fixed up quick so as to restore service.

8022 So there is a great division between this local stuff, but by and large, the thing that the consumer—now the consumer doesn't know anything about—supposing he knows his lamps are burning out a lot. Now, he makes a kick to Henry. Henry says, "Well, I don't know what made those

lamps burn out unless your voltage is fluctuating." You know that if that voltage regulation is not right, if it is a 115 volt lamp, it shoves up 125 and down 104, those lamps will burn out quickly, so he tests the voltage out.

The customer doesn't know about variation in voltage. He doesn't know we are compelled, as far as we can, to keep within certain limits and we do, but once in a while it gets out and we have got to correct it by some sudden load coming on, but Henry knows it, so Henry calls up.

Now, Henry can't fix that voltage regulation. It has got to be done by some substation outside of DeSoto entirely—maybe at Festus, and maybe when Festus tries to fix it and they can't because it might upset something else and somebody in the center, or it might upset something to the south 8024
and west. It is a great complicated thing with the local fellows doing their part in contacting the customer.

Then it gradually reaches a step away from that local place. Each person has their part.

Now, I think that answers that question.

Q. Are there functions which can be performed better in St. Louis than in DeSoto? A. Well, obviously, yes. You see, as I told you, connecting and disconnecting services, customers moving in and out of houses, paying bills, these minor troubles, selling particularly small merchandise, all that can 8025
—3,376—
be handled, but these other things that I have talked about—for instance, even the preparation of bills would hardly be handled in DeSoto as economically and as satisfactorily as they could be handled elsewhere, but they might be sent and mailed from there.

Then, as I told you, the real trouble crews. You couldn't maintain sufficient trouble crews in DeSoto to meet any emergency at all. That could be handled away and a lot of the accounting can be very much better handled away.

8026 *William McClellan—By Respondents—Direct*

The minor accounting, what might be called day-book accounting, just mere records, can be handled in DeSoto, but that has to be put in a systematized account. Reports to the Missouri Commission and Federal Power Commission, they have to go into the hands of experts and we can't have these experts everywhere—we have got to collect them in one spot—so there are a lot of things that can be handled very much better away.

As I tried to explain, we start with a local place. The
8027 first place you get to for matters that can't be handled in DeSoto, is Festus. Then, Festus finds its limits. When you can't go to Festus, you go up to Webster Grove. Webster Grove finds its limit and there are a lot of things that have got to be handled. The only other place is St. Louis.

So there are a lot of things left over that have to be handled in a more constant concentrated place like St. Louis.

—3,377—

Q. What are some of the items which are necessarily handled in St. Louis? A. Well, the biggest item of all handled in St. Louis, of course, is power generation. Very naturally,
8028 we have got to generate our power in great big power houses to get it cheap. Well, Webster Grove is—anything below Webster Grove—even Webster Grove can't handle a problem of that sort, because they only know what power they need.

Somebody has got to be in St. Louis saying what Webster Grove needs, what all these places need and worse than that they have got to look at the growth of the communities and see whether they are going to stop growing or grow faster or whether their power needs are going to increase.

Nobody can do that. Now, that is on the demand for power. Now, as soon as they know that on a certain date

you have got to have so much power, then, of course, the whole engineering department comes in. How are you going to get it? Shall we add to Cahokia, an existing power plant? Shall we add to Venice or shall we build a new one at Venice or Ashley Street, or shall we build a new generator up at Mississippi River Power Company or over at Osage, the big water power plant? How will all that be done? That can only be done at some central point that knows all these various things.

That is the biggest end of power generation. 8030

Well, next to power generation, you have got to hook all

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these plants all together when you have got a lot of them. That can only be done at St. Louis. What we call transmission lines.

Then, even sub-transmission lines, which are simply underneath, subsidiary transmission lines, to get the small places—the transmission lines, themselves, being the big lines that connect up the main power houses and the big substation on Page Avenue. That has to be done by a central organization in St. Louis that knows the territory, knows 8031 where you can put underground, overhead, rights-of-way.

That has to be done in St. Louis. I could go on and mention some of these problems. Then, of course, the main accounting has to be done in St. Louis for all the companies and our sales policies, in fact, most policies, general policy matters have to be settled in St. Louis because they take the attention of the principal executive officers.

Q. Are there functions which can not be performed in St. Louis? A. Functions, you mean of the company?

Q. Yes. A. Well, there are functions that can be performed so much better outside, it is practically impossible to perform them entirely in St. Louis. That is the first thing.

In the second place, even if you could perform a portion in St. Louis, they could be done so much better outside that

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it is a waste of money and inefficient to try to do them in St. Louis.

8033 Q. Could you give us some examples? A. The biggest of that is financing. It is almost impossible for us—it would be impossible for us in St. Louis to have a complete financing department because, in the first place, we can't get all the money in St. Louis.

Now, that is, of course, a fact that can't be denied.

In the second place, inasmuch as we can't get all the money in St. Louis, we have got to appeal to the country. We have got to go to the whole country.

Then, you have got to have people in St. Louis that are accustomed to doing that particular thing and not doing

8034 merely local things. You have got to have an organization and a distribution department that can appeal to the whole country, that have what we call distribution, national distribution as against local distribution for securities.

With all due respect to St. Louis people, they might organize it with the help of other people outside, but they couldn't possibly, they haven't the distribution, to get the large sums of money we need from the whole country, and so on. You can go on with that problem.

When it comes to how you can get that money, we don't keep any, we can't afford, our financing doesn't come fre-

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quently enough to afford to keep a crowd of expe ts around all the time to determine as between preferred stock, bonds,

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different kinds of bonds if we choose.

I mean by that, first mortgage bonds and debentures, and things of that sort you might want to issue, the relative marketability of those things at any given time, what they ought to be sold at, the determination of all those features, and then, of course, if a mortgage has to be written, we don't—

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there is hardly a lawyer in St. Louis writes a mortgage in twenty years, especially a public utility mortgage, which is an extremely different mortgage from the average mortgage owing to the way we have to operate, taking the property up and down, removing things, so that all those things, while we may do some of it and do do some of it in St. Louis, it has either got to be completed—and the big ends of it is done outside of St. Louis.

Q. Could you place all the common stock of the Union Company in St. Louis?

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Mr. Odell: I am going to object to that question because I don't think this witness has been qualified to answer questions of that kind.

Mr. Browning: I think the witness' experience has been shown to embrace practically every field of public utility management, Mr. Examiner.

Mr. Odell: Not in St. Louis, though.

The Examiner: This calls for more than public utility operation. It calls for a financial knowledge. Has he qualified himself along that line so far in this

—3,381—

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record? I don't recall it but maybe you can refresh my memory on that.

Mr. Browning: We can clarify that in the record.

By Mr. Browning:

Q. In the course of your connection with various utility companies throughout your experience, Dr. McClellan, have you had any contact with their financing? A. Oh, I have had—in the first place, I have had information in that regard,
8039 but when you say "contact with financing," I have done nothing in regard to a great many of them, but now to recite where I have had what really might be called "contact," of course, in the Cleveland Company, we not only participated in arrangements, discussed the matter at home, but also participated in the arrangement for the sale of securities—Spencer, Trask & Company, Dillon-Read & Company—went through the bargaining with National City Company and things of that sort, so that was what I would call direct contact.

In addition to all this enormous, what might be called
8040 "information contact" when I was with the Commission—but there I didn't do anything—I want to make that plain—I just observed what was going on.

In this other case, I actually participated in these things. Then, of course, in the Cleveland Company, we also had a campaign to sell common and preferred stock to the community.

The Examiner: Well, are you familiar with the——

The Witness: (Interposing) And I knew some of the difficulties and arrangements we had in connection with that.

The Examiner: Are familiar with market conditions in St. Louis? The availability of the St. Louis investors to absorb your company holdings and protect them?

The Witness: Yes, I am quite familiar with—I have observed what they can do and in various places I asked brokers about it and I know from experience 8042
—not direct experience in St. Louis, because I have done no financing there—but I have observed the houses. I know the size of things they are doing and I could say that there is nobody in St. Louis without outside help, who could handle a $10,000,000.00 issue.

Mr. Odell: I am going to even object to a conclusion like that because I still insist that this witness has not qualified himself to give us financial expert advice.

The Examiner: I will overrule the objection.

The Witness: I beg pardon? 8043

The Examiner: I say I will overrule the objection.

Mr. Odell: I am going to take an exception. I would like to have you consider that again because I submit that this witness has not qualified himself as an expert on financial affairs.

He has qualified himself as an expert on engineering matters, questions of management and oper-

8044 *Colloquy*

ation of utility businesses, but that is a long way off from being an expert on financial affairs.

As to the studies he has made on matters in St. Louis, I think that we at least ought to have the benefit of some more detail.

The Witness: Off the record, please.

The Examiner: Off the record.

(Discussion off the record.)

8045 Mr. Browning: Will you read the question please?

(Whereupon, the question was read by the reporter.)

The Examiner: What is the last objection? Read the last comment that Mr. Odell made.

(Whereupon, the above statement was read by the reporter.)

The Examiner: All right. It is true that Dr. McClellan has only been the president of this St. 8046 Louis group of companies since the early part of 1939 and that may not be a sufficient length of time for him to have familiarized himself sufficiently with the security markets in St. Louis to express an opinion, but I think that the witness should be permitted to express an opinion formed on the length of time that he has been there and I will overrule the objection.

Mr. Odell: I think that his opinion should not be based on the length of time he has been there but

the study he has made while he was there, and I object to this witness' answering Mr. Browning's question as to the ability to place common stock in

—3,384—

St. Louis until the witness gives us the benefit of a little more detail as to what study and investigation he has made of that general question.

The Examiner: What do you say to that, Mr. Browning?

Mr. Odell: May I finish, off the record, for a 8048 minute?

(Discussion off the record.)

Mr. Browning: In view of the objection we withdraw the question.

By Mr. Browning:

Q. What is your policy on purchases of machinery and equipment manufactured in St. Louis? A. Our policy on purchasing all equipment is to pay no attention to where it is made, but to buy it—first, as an initial matter—but to 8049 buy it, quality being considered, at the very lowest possible price.

However, if a piece of equipment can be bought in St. Louis for the same or as low a price as it can be bought elsewhere, of course, we buy it in St. Louis.

In other words, we wouldn't pay any premium to give it to St. Louis people. We feel, in justice to rate-payers and everything concerned, we feel that quality considered, we ought to buy it at the lowest possible price. But, of course,

8050 we have an obligation at the lowest price, to give it to St. Louis. That is our general policy.

Now, then, of course, there is a great deal of material

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that can't possibly be gotten in St. Louis at all and we must buy it outside of the city. That goes without saying. A great many things just can't be had there.

We can't limit our buying to St. Louis. On these contracts, of course, purchasing materials are made at the 8051 lowest price and, of course, giving St. Louis the benefit of any buying at the lowest price.

Q. Well, is localization or efficiency your test of management? A. Oh, efficiency, just as in this little purchasing item I have just been talking about here, efficiency is an item.

In other words, when we get it, the mere fact that it is made locally is interesting to us, but we first have got to be sure that we won't have to pay more for it to local men than we do any place else so that is a measure, so to speak, of efficiency.

8052 The same in our engineering. We have local engineers, but we don't necessarily employ local engineers. I mean, if we have to go outside of our own organization for local engineers, we don't employ—we have a general rule that we will try to get St. Louis men for the job if we possibly can, quality considered.

We don't want to bring in a man from the outside, but if we can't get what we want in St. Louis, then we must go

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outside and that applies to everything.

Q. And it applies specifically to where you perform functions? The question is where you can do it the best? A. Yes. Where we can do it best is the—and by doing it best, of course, we mean other things—the cheapest in the long-run, the whole cost involved. It may not be the cheapest thing from the initial penny that we pay out or the dollar that we pay out, but everything considered—insurance, whether we shall deal through local agents or whether we shall go outside to outside agents.

All those things must be considered from its total cost 8054
and total benefit to the company, but efficiency is the measure of it and nothing else.

In other words, we wouldn't do a thing locally just for the sake of having it done locally. There is nothing like that. If it isn't efficiently done locally, we won't do it locally. If it is more efficient to do it outside, we will do it outside. That is our measure.

Q. You consider that a sound point of view? A. I consider it sound because I think I am sound myself and it is the point of view I follow in solving my problems. That is what I call management. That is my point of view. 8055

(Discussion off the record.)

—3,387—

By Mr. Browning:

Q. Is size determinative of localized management in a public utility? A. I don't think size has anything to do with it, with localized management.

Localized management, irrespective of size, is what you can do best locally. I don't care whether it is big or whether

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it is little, size hasn't anything to do with the determination of what should be done locally. In fact, size may influence the answer, of course.

A great big thing may mean that more may have to be done outside than some little place, that is perfectly true, but it is efficiency that still controls, irrespective of size, what should be done.

(Discussion off the record.)

8057 The Examiner: We will have a little recess.

(Whereupon a short recess was taken.)

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By Mr. Browning:

Q. Do you regard size as determinative of management in a public utility? A. No, I do not. I think, from my experience in management, that, of course, the thing that determines everything in management is the efficiency.

In my experience, generally speaking, especially in our
8058 business where the two questions have come up, efficiency and regulation, it has been my general experience that the larger you get a company the more efficient you can expect it to be and the more easily you can expect it to be regulated.

Now, the question of size has to do with the nature of your organization.

Of course, as the thing grows in size you have got to make sure that the character of your organization fits the complete job that has to be done, but that is just as well done for a large company as it is for a small company.

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The difference between localization and outside management or top management, the proportion between the two has to be adapted, but it can be adapted to give you maximum efficiency, and I think better with a large company than with a small company.

In fact, the whole history of this thing, from beginning to end, of our industry, has been the stepping from small to large, to get efficiency, whether it is in power generation, whether it is in merging little bits of communities like the

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DeSoto thing you have been hearing about from Mr. Stokes, whatever it is, it is the stepping of the small to these large, to get efficiency, and then adapting the organization to fit that whole subject.

Now, therefore, I know this North American organization, for example, that we are talking about here, ever since 1920 or thereabouts, perhaps—yes; oh, I know it before that; I know it intimately since 1920, and I know it since about 1916 or 1917, shortly after I left the Commission, but I was more closely connected with it from 1919 and 1920 on.

Now, I can't—it seems to me that an organization like 8061
that is very much like some of our huge manufacturing organizations in the country. I have never heard of General Electric Company, for example, with plants in different cities, with strong localized management in those plants for what they could do in those plants, but with the top management in Schenectady and one in New York adding on and doing the things that couldn't be done locally, I have never heard anybody in the world call that organization inefficient because it was big.

In fact, I have just heard the reverse.

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In the same way I have observed organizations like General Motors, with plants stuck everywhere.

So here we are. I don't see that size in any case, if I

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start out with De Soto—De Soto people are infinitely better off than they would be if they were not part of a large organization.

They are getting more reliable service and I think they are getting cheaper service.

8063 I am talking about what I have seen, what I have known and—

Mr. Odell: (Interposing) What are you referring to, Dr. McClellan?

The Witness: I have just happened to pick out the town of De Soto that you have been told some of the details about by Mr. Stokes.

We have just dozens of towns just like it.

There is no question but what, as you go up in size, in our kind of business, you get increased efficiency and you also, I think, which is another important point—I have even heard—I can't recall of specific cases just at the moment—but I know in the New York Commission we used to think we could regulate the big companies a darn sight more easily than the little ones, and I have heard of other commissions in other parts of the country tell me that the big companies were much more easily regulated than some of these little companies, because in many cases they had more resources, stuff could be brought to them in better shape—

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Mr. Odell: Mr. Examiner, I am going to object

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to what some of these other commissions told the witness. I think that ought to be stricken from the record.

Mr. Browning: I think the witness is giving us the benefit of his experience, Mr. Examiner.

Mr. Odell: That is an important question in this case perhaps.

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We don't have these other commissions or commissioners present so that we can cross-examine them as to what they said and why they said it.

Mr. Browning: I think the witness could drop what other people told him and give us his own conclusions.

Mr. Odell: I think that portions of the record that contain statements of what other people have told this witness should be stricken.

The Examiner: That is clearly hearsay and I will grant that motion.

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By Mr. Browning:

Q. Then I will ask the witness for his own conclusion as to these particular tests.

The first test which I want to ask him about is: "Not so large as to impair the advantages of localized management." In your opinion, is size determinative of the advantages of localized management? A. Oh, not at all; not at all. I think that the advantages of localized management

8068 *William McClellan—By Respondents—Direct*

can be had in any situation which is big enough, really, to

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permit of local management, versus the other.

In fact, I think you can get the advantages of localized management with big organizations just as well as you can possibly get it with small organizations, and perhaps better, so that I don't think size there enters into it.

I don't see how it could interfere with localized management.

8069 Q. In your opinion does size impair "efficient operation"? A. Oh, my gracious, no. Just the opposite. Just the opposite.

I think, as I have testified here—I think I have said it two or three times—I think that, as you grow in size, with proper organization, I don't see why efficiency shouldn't increase rather than decrease.

It does in material things; there is no question of that. Take a power house, for example.

There is no question about it that, for various reasons,

8070 a 300,000 kilowatt power house—there is no question about it being more efficient than a 50,000 or 25,000 kilowatt power house.

First, because the units themselves are likely to be more efficient, and secondly, you can afford—on that big base—you can afford to put brains in to operate it, to get an effi-

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cient job, that you can't afford to put on a small one.

Q. You have testified as to extensive experience with commission regulation.

In your opinion does size impair the effectiveness of regulation? A. No, I do not think it does.

I think—In my experience, I think that the effectiveness of regulation—meaning by that the effectiveness of getting through cases and getting the facts and all that to be discussed—I know, from my own experience with the New York Commission, that the larger companies were very much more easy and I have heard Chairman Stevens tell me that, definitely——

Q. (Interposing) Just a moment. A. The larger companies were much more easily regulated than the small ones—I will say the small ones—and there are reasons for it, why they should be. 8072

Those men come up from those large companies with all the data, the information, that is needed for regulation, in far better shape.

The lawyers are better trained, more familiar with what they are doing, because they have more of it to do.

The engineers, the accountants, come up with everything in far better shape.

Time after time I personally have had to ask for things and wait weeks for it, in the case of small companies. 8073

Everything comes up in fine shape from the larger companies, so that size, as far as regulation is concerned, unquestionably, in my mind, means efficiency.

Q. What has been the general policy of The North American Company with respect to local autonomy of its subsidiary companies?

8074 *Colloquy*

Mr. Odell: Mr. Browning, before you go into that question, I want to know whether the record shows that what Dr. McClellan says about what Chairman Stevens said is eliminated from the record.

Mr. Browning: That is agreeable, yes.

(Discussion off the record.)

The Examiner: That quotation from Chairman Stevens is stricken.

8075 Mr. Browning: Will you please read the last question, Mr. Reporter?

(Whereupon the pending question, as above recorded, was read by the reporter.)

The Witness: Well, that—I have forgotten just what year it was that Mr. Frank Dame came into The North American System, but he was the one that established this general local autonomy system, or rather the division between local autonomy and North American's relationship to these companies. He believed that—and the Company has practiced it

8076 —he believed in a very maximum amount of local autonomy; that is, putting men in charge of these

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companies who really, so far as they were concerned, operated these companies as if they had the sole responsibility for operating the companies.

Nevertheless, of course, the wisest of them not only remembered the relationship of The North American Company to them—they had a right to know what was going on; many times a right to know in

advance of how problems were going to be decided—but nevertheless the decision was left in the hands of the local man, and that was, of course, partly because The North American System is made up of a relatively small number of very large, important companies at some of the principal cities of the country, and not of a huge number of little bits of companies that confessedly could hardly stand alone, and confessedly one hundred per cent. local management of companies of that sort was impossible. 8078

Of course, it is equally impossible, in my opinion—but not to the same degree—even in a company as big as some of the companies I have been connected with, like Cleveland, St. Louis; that is a good illustration of the proportion of it—cities of that size can have a great deal of local autonomy but they can't possibly do everything locally that will make for the greatest efficiency in every direction.

Now, I, for example, in my association with the Cleveland Company, as a vice president—we are talking of The North American System now—and with 8079 the St. Louis Company, I can't recall a single time

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when I have ever been ordered to do anything.

The method has been to, in the first place, as I sat in those companies, all those three companies, as an executive officer, sometimes I decided it was not necessary to discuss it at all with The North American Company; other times, when my mind was made up to do a certain thing, it was wise to say something about it.

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Always remember that, in my opinion, from all my experience with these companies, a man would be a sort of foolish man, who, with all those facilities for advice on strong, hard problems, wouldn't make use of those facilities, for which he was getting good advice, even though the responsibility was finally on him to decide what to do.

Now, I say I have never been ordered to do anything. There have been times when there were sharp
8081 differences of opinion, but all I have to say is that out of it there came a reconciliation of views, so that it was never necessary for the owners of the property —and in spite of all the local autonomy you can think of, you can't deny that there you have in many cases the owners of the property, you are talking to the owners of the property, and, therefore, their views, expert and otherwise, are entitled to a great deal of weight—but I know of no time in my history that they have ever said, "You do so and so", and especially against any ideas that I had myself.

8082 —3,397—

The responsibility is put on us pretty heavily to solve the problem, and that is—I am talking now from my personal experience with this, not of anybody else.

I have seen some of the others and I know they feel the same way about it. I mean we have talked together. Mr. Way—I mustn't say that.

By Mr. Browning:

Q. Doctor, you can— A. Leave that out?

Q. —leave that out, what the others told you. A. Fortunately I didn't get that far.

Q. Well, now, Doctor, turning to the St. Louis management situation, which you found when you went to St. Louis in the spring of 1939, was the former executive management local in character? A. Oh, yes. The former executive management at St. Louis was local in character. It, in reality, consisted of two people—Mr. Egan and Mr. Boehm.

Frank Boehm was a Missouri boy who spent his whole life with this company and, so far as I know, so far as I can remember—and if he did it was very slight—he never had any business experience outside of Missouri and outside of this company. 8084

Q. Can you tell us when Mr. Boehm entered the employ of the Company? A. I had it here somewhere. I will find it.

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Q. I think it is right there in your notes, Doctor (indicating). A. I don't know whether I had put it in these notes or whether they had been put in the notes.

Yes, it is right here (indicating). 8085

Well, Mr. Frank Boehm was born in Missouri. He entered the service January 4, 1910, as a clerk, and has come up through various promotions until he got to be executive vice president January 1, 1936.

Q. That was Mr. Boehm? A. That was Mr. Boehm.

Now, Mr. Egan—he joined the Union group on November 1, 1916, as assistant general manager, and then he became vice president later; president April 1, 1920 and was president until 1939.

8086 *William McClellan—By Respondents—Direct*

I do know that Mr. Egan was a product, more or less, of Missouri, as well, because his father was interested in street railways—I think president or general manager of the street railways of Kansas City, Missouri,—and I knew that Mr. Egan was there before he came there, so he had a very much larger experience in St. Louis than his life with the Union Company would indicate.

Now, this management consisted of Mr. Egan and Mr. Boehm and, if one were to divide the management into in-

8087 —3,399—

tensive management and general management, Mr. Boehm was a very large part of the management of the Company.

Mr. Boehm left St. Louis with relative infrequency. I mean to say he did little traveling.

He spent his time around St. Louis. I never met him often at conventions.

I used to meet Mr. Egan all the time at conventions but I seldom saw Mr. Boehm in New York; often I saw Mr. Egan there.

I know that he spent a great deal of his time right there.

8088 Now, that is the men that were doing it and they didn't have the kind of organization that I would have, but nevertheless I have got to acknowledge that those men did have fairly good public relations, as I heard when I came to St. Louis.

They had a good organization for accomplishing things in some way or other.

The thing I objected to, however, would be that they did not give them any chance to grow, and there was too much individual responsibility on the part of one man, which is contrary to my methods of organizing anything of that sort.

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Moreover—I don't know how to put this without objection—I, for a great many years have had the distinct impression—rule this out if you want to—from conversations, and so forth, remarks dropped, that these men wanted to

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disregard, as far as possible, any influence from New York, and wanted to have an intensely local management.

It is almost well known among us—if you don't want it in, you can rule it out—I can't give the day or anything of that sort, but it was an intensely local management and with 8090 a certain disregard, as far as possible, of the New York management or New York authority, which, as I have told you, in my own case, we carried many problems out there, but the question of authority in New York was never exercised, even though it might have been present.

They were perfectly willing to let the man have full authority, but they wanted to know what was going on, wanted to know how he was behaving, but they didn't have him as any agent of theirs in the place.

It was intense—that is the surprising thing, that St. Louis, even with all that, with all the liberty of autonomous 8091 management, that was not given to anybody else in the companies in the other places, that it happened as it did there.

Q. You mean that St. Louis didn't have even the ordinary contact with New York? A. Well, I can't speak—all I know is that I frequently have seen Mr. Way of Milwaukee and Mr. Crawford of Cleveland up there.

We have talked and chatted about our common problems. I would even almost go so far as to say that I almost never had a conversation with Mr. Egan, and certainly not with

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Mr. Boehm, in New York, except on specific things once or twice in fifteen or eighteen years, whereas the others I might frequently—we talked over things.

Not officially, I mean to say, not by design, at any time, but we just bumped into each other.

Mr. Browning: I should like to have this chart marked as Respondents' Exhibit No. 62 for identification.

8093 (The document referred to was marked for identification as Respondents' Exhibit No. 62.)

By Mr. Browning:

Q. Dr. McClellan, was this chart, Respondents' Exhibit No. 62 for identification, prepared under your supervision, to show the organization set-up of the Union group? A. This chart——

Q. (Interposing) Was it? A. Yes, but I have got to explain that it is the organization of the Union group as I hoped to complete it, and as I am in process of completing it,

8094 not that it is complete at present.

Mr. Browning: I offer this in evidence as Respondents' Exhibit No. 62.

Mr. Odell: No objection.

The Examiner: It is received in evidence under that number.

(The document referred to was received in evidence as Respondents' Exhibit No. 62.)

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By Mr. Browning:

Q. Now, Doctor, will you describe the steps which you are taking, referring to the chart when necessary? A. As I told you before, the management I succeeded was a very much centralized management, almost in one man, with everybody else acting under almost his personal orders, and no man having been given definite responsibility without a string on it.

Special jobs were handed around hit or miss, so that jealousies, troubles of that sort, came into it. 8096

So, in making this up, which was what I went out there for to handle this company, I had those two or three things in mind:

First, to put definite responsibility on responsible officers, have them report so that they would know—to various bodies—so they would know they were responsible; have the responsibilities definite so that there couldn't be jealousies arise between different men, as happened in the old organization, as to who was going ahead and who wasn't going ahead, and things of that sort.

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So it starts out—this particular diagramatic arrangement is merely to keep from crossing lines unnecessarily—with the Board of Directors on the vertical line on the end.

—3,403—

Now, reporting to the Board of Directors is the president, the secretary, the comptroller, and the executive vice president. Now, the executive vice president is in effect what is generally called a general manager.

In letting him report to the Board of Directors, that is something new. The general managers usually report to the

8140 *William McClellan—By Respondents—Direct*

I made the remark to my directors that I was very sorry to have to operate without them because, while they didn't hold me back, at all, nevertheless, it was very great value to be able to go up and talk to men who were looking at other companies and had an interest. That is the point.

I can go to lots of consulting engineers and lots of consulting accountants and get advice on what to do, but the trouble about all those fellows is that they haven't an interest in the thing, a vital, and I might just as well say financial interest in the problem the same as I have.

8141

Therefore, the advice of those men of The North American is different from any other advice you get. In my opinion, it is better for that reason. It is interested advice, but all out in the open, so far as the top management is concerned.

—3,420—

Mr. Browning: I should like to have marked for identification as Respondents' Exhibits 63, 64 and 65, three tables. The first of these, Exhibit 63, which is entitled "The St. Louis County Gas Company" shows the securities issued by the company with date of issue and date of retirement, among other information.

8142

(The document referred to was marked for identification as Respondents' Exhibit No. 63.)

Mr. Browning: The second, Respondents' Exhibit 64, also entitled "The St. Louis County Gas Company," shows gross income by years from 1912 to

president, but it serves to increase the prestige of his position, to make him know that he doesn't really have to do—that he has access to the Board of Directors and doesn't have to do just what the president tells him, and that sort of spirit.

Now, it is the same way with the comptroller, although that is part of the development of the age, that the comptroller, instead of being merely a head bookkeeper, is a very important part of the organization.

8099 I remember, when I came to Washington, I called the comptroller in here and told him that he had a right to come into my office and tell me that, as president, I didn't have the right to spend money, and question my authority. I believe that to be true.

So that the executive vice president, as I say, reports—comptroller reports to the Board of Directors; the Secretary naturally reports to the Board of Directors, because he keeps the minutes; if for nothing else, he reports to the Board of Directors for that reason.

—3,404—

8100 Now, they all also report to the president of the company and you will notice the comptroller and executive vice president—all vice presidents as such—for example, we have a vice president in charge of sales; so far as these sales are concerned he reports to the executive vice president or general manager, but, as a vice president, he reports to me.

I wanted the chart to show that no vice president was going over the head of some one else if he wanted to come in to see the president.

So it is all vice presidents as such, whether they have managerial duties or not.

1939, with interest on funded debt and times interest earned.

(The document referred to was marked for identification as Respondents' Exhibit No. 64.)

Mr. Browning: And the third, "The St. Louis County Gas Company" has a sub-heading, "Earnings available for common dividends and amount set aside for depreciation reserve."

8144

(The document referred to was marked for identification as Respondents' Exhibit No. 65.)

By Mr. Browning:

Q. Dr. McClellan, were these tables prepared under your direction and the information thereon taken from the books and records of the company? A. They were prepared under my general direction and I know they were all taken from the books and records of the comptroller. I recognize some

—3,421—

of them but I don't recognize every one of them—I mean every figure on them—but they were, I know, taken from the books of the company. 8145

Mr. Browning: I offer them as Exhibits 63, 64 and 65.

Mr. Odell: No objection.

The Examiner: These tables are admitted in evidence under the numbers assigned to them.

(The documents referred to were received in evidence as Respondents' Exhibits Nos. 63, 64 and 65.)

Now, the treasurer, of course, reports to the president.

Now, the non-operating companies, of which we have three at present, all to be dissolved at soon as they can legally be dissolved—there is absolutely no reason for keeping them; nobody wants to keep them, but by law those three companies, an account of a few damage suits—that is the only reason they are living, but by law you can't get rid of them until you have gotten rid of all their liabilities. So you are just stuck. 8101

That is the reason for those three particular non-operating companies. That is a nuisance to us and everybody else. 8102

Now, then, we come down underneath. The vice-president—up toward the left there (indicating)—in charge of corporate affairs, is Mr. Woodbridge, a lawyer.

—3,405—

He has general charge under me of all corporate affairs. I could tell you a lot about him.

Everything that has to do—we are getting rid of companies; we are making reports to commissions; we are getting orders from the Commission; we are handling valuations; we have complaints; we have licenses; we have in the nature of easements, almost like franchises in certain cases, the essentials of franchises, everything of that sort, anything that is in the nature of a corporate affair Mr. Woodbridge passes upon, or taxation matters—he is the final authority under me in regard to those matters, so there is no staff shown on this, of course. 8103

Mr. Woodbridge has a large number of departments that report to him, but are autonomous, again, as far as they can be.

The comptroller, of course, has an enormous staff.

The executive vice president has these departments (indicating). His staff is shown on here (indicating).

Now, the operation which has to do with everything except generation, so to speak—that is, the men in charge of generation put the kilowatt hours on the bus bars and this man Miltenberger, "Operation", takes them away by transmission lines, distribution lines, services, and things like that.

The construction department is in process of organiza-
8105 tion. We haven't given it concrete form yet.

—3,406—

The Electrical Engineering—you have met Mr. Stokes. I found him when I came here. That is what I meant by saying they had good men.

Mr. Miltenberger has been with this company a great many years, certainly over twenty years, and I found him to be a most useful man and a most able man.

Mr. Stanley Stokes—you have had a little sample of him. I have high regard for him as an engineer.

Mr. Tenney, in the same way, is in charge of Steam
8106 Plants. He has been with the company a great many years. I think most of that has been described to you.

Q. Yes. A. I am just speaking generally. I didn't have to go out and find somebody for this purpose.

Mr. Berry has been with the Company, and Mr. Michel—he has been here before—with the Commercial Department; very able men.

Purchasing—now, this is a new man; we found a purchasing department that was in the hands of a man who is about physically disabled, and, to a certain extent, men-

8107

tally disabled, and we had to—there was nobody in St. Louis, so I put that in the hands of Mr. Gushee, who had been in Detroit and he knew this man Covell.

We got Mr. Covell from Detroit on a temporary basis and finally made his position permanent. He had so much

—3,407—

experience—of course, I could have found some good-looking fellow in St. Louis, and I might put him in the job and train him, but we couldn't afford that with our huge purchases.

8108

We had to have a man with a great deal of experience, and so he knew of this fellow, and he was brought in from the outside.

Steam Heating—Hillemeyer is an old fellow who has been with us a long time, doing a good job.

Property Records—that is Harold W. Ross.

Now, here is St. Louis County (indicating). That happens to be a separate operating division and Mr. E. H. Lewis is in charge of St. Louis County. The headquarters is at Webster Grove.

8109

Mr. Lewis also runs other county operations, like Jefferson County that we have been talking about, all outside of the City.

He is an extremely able man, and I had no reason to change him.

Personnel—Alderson is one of the older fellows. He has charge of everything relating to personnel.

Rate Research is a very important department, extremely important department, because we can't wait until troubles come with rates before we fix them; we have got to be constantly looking ahead.

8110 *William McClellan—By Respondents—Direct*

Our rates—all rates of all companies have grown up—

—3,408—

it is a kind of hodgepodge, owing to the way they grew in the early years.

The result is that now there is hardly a company that I know of that isn't fixing up its rate systems, to get all sorts of dislocations out of them, and we have to take advantage of that, of course, because one thing you can't do is raise anybody's rates in a rate adjustment, if you can avoid it.

8111 So, as a consequence, if the time comes to make adjustment in rates, then we have got to have a lot of studies in advance to try to get some of these dislocations that have grown up in history, with all rate systems of most every company.

Some companies are more fortunate than others, but I know of very few that haven't got relics of history that bother them all the time.

So that this rate research bureau is studying rates all the time, to find out what is the matter, so that we will know

8112 what to do with them when we get a chance, and, in spite of everything else, I think rates are coming down in this country.

Things may stop it for a while, but generally speaking, they are on their way down.

Advertising speaks for itself. Mr. Holland has been with us a long time.

Then the Stores Department; general storekeeper Mr. King. He has been with us a long time.

—3,409—

There are very, very few new men. I picked Mr. Heren, who is a general assistant over here. He just picks up a lot of things. We have investigations made by him, if there seems to be trouble anywhere. He also pays attention to content and editing of our employees' magazine. He does a great deal of reading of everything that comes out which might have reference to the company, digests it and lets us have it, and then he sits in discussions.

As I told you, I put him on one of his main functions, which is to make sure that he, at least, of all of us, keeps 8114
the public point of view.

He is a sort of devil's advocate in everything that comes up. He is arguing for the public so that we won't forget it and be too corporate. That is what we are trying to do.

He is a newspaper man. He is not a publicity agent or anything of that sort. We keep him out of that entirely. That is Mr. Holland down here.

We have got these subsidiary companies:

First, the Union Electric Company of Illinois. The manager of that is Mr. Welsh—the East St. Louis Division that is.

8115

The Mississippi River Power Company—that is Mr. Dickinson. That is a subsidiary company.

The Union Electric Company of Missouri, Cupples Station Light, Heat & Power Company, St. Charles Electric Light & Power Company, Lakeside Light & Power Company,

—3,410—

Union Electric Land & Development Company.

Lakeside is going out and St. Charles is going out. I think, within six months, there will be only two companies. Three of them are going out.

8158 *William McClellan—By Respondents—Cross*

PROCEEDINGS

The Examiner: The hearing will come to order.

Whereupon, WILLIAM MCCLELLAN resumed the stand and testified further as follows:

Cross Examination by Mr. Odell:

Q. Dr. McClellan, I believe that you testified that you
8159 were employed by the Second District Public Utilities Commission, which was the New York State Utilities Commission regulating utility companies in the state of New York except those in New York City, in the period between 1911 and 1913. Is that correct? A. That is correct.

Q. Then in 1913, you formed a private engineering firm which continued until 1916—— A. (interposing) No, I testified that the firm had been in existence and that one of the conditions on which I took the New York State Commission job was that the firm could continue. I was not able to give much attention to the private business but it was
8160 going on and Mr. Campion was there. The office was kept open but I did not do any outside work.

Q. You went—— A. (interposing) I went back to the firm that had been in existence before I took the Commission job.

—3,426—

Q. I believe you stated that during the period from 1913 to 1916, you were also assistant to the president of Buffalo General Electric Company, is that correct? A. No, one year, just the year after that I resigned that job, from 1913

8116 *William McClellan—By Respondents—Direct*

Union Colliery Company. The St. Louis & Belleville Railway has to stay and the St. Louis County Gas Company is more or less permanent.

Now, that is the kind of organization that just as soon as it is completed—it is partly done now.

Q. I don't believe that you told us about Mr. Gushee's prior experience before coming to St. Louis. What was his— A. (Interposing) Well, Mr. Gushee's prior experience—he had a very, very varied experience, I think, in cer-
8117 tain things out west, nothing whatever to do——

Q. (Interposing) I mean, with what company was he connected before he came— A. (Interposing) I think the Detroit Edison Company was the only utility company. He had gone with that in various ways and had gotten to be one of the top in the principal officers of that company, when I got him down here.

Q. Could you have secured people with the ability and experience of Messrs. Gushee and Woodbridge in St. Louis? A. Oh, no. In fact, it was difficult to get anybody like what I wanted in a man like Gushee anywhere. In other words
8118 —3,411—
I was hunting for a pretty top man. Not only that man couldn't possibly be found in St. Louis, there was no possibility of his getting experience. The Union Company had nobody.

Certainly, under the circumstances we were operating there, we were mixed up in some questions that were under investigation that was impossible to get anybody in St. Louis with the experience, that knew the utility game.

In fact, I suppose, I, myself, having to go out there much against my will is partly an illustration that at least the

to 1914, that I was assistant to the president. It was really one year.

Q. And then you returned—— A. (interposing) And while I had that position, I still was with my firm.

Q. I see. In describing your duties with this firm, Doctor, you stated as follows: "Of course, I was with the New York Commission, I was with the New Jersey Commission, Utah Commission, Colorado Commission, North Carolina Commission, Washington Commission. I think I was before the California Commission." 8162

Referring to that statement, Doctor, will you tell us whether you were a member of all of those Commissions? A. That testimony ought to be corrected. I appeared before them all. I was not a member of any Commission at any time in my life. That testimony has to be corrected to just not with them but appeared before them.

Q. And referring again to that statement, Doctor, were you ever employed by any of those Commissions during this period between 1913 and 1916? A. Only by the New York Commission twice and by the court of New Jersey once. 8163

—3,427—

That is all.

Q. I am referring to your activities in the period between 1913 and 1916. A. No.

Q. Were you ever employed by any of the commissions that you have—— A. (interposing) Not in that particular period that I can recall, no. I was employed by various utilities companies and I appeared before these commissions in cases. That is all.

8119

people who sent me there thought they couldn't find anybody in St. Louis.

Q. Doctor, I don't think you mentioned the personnel of the board of directors. A. Well, perhaps——

Q. (Interposing) What have you in mind for the board of directors of the Union Electric Company of Missouri and the St. Louis County Gas Company? A. Well, the board of directors now is really the officials of the company. That is what it amounts to, which is, after all, not a very surprising thing with a single stockholder, because it is a close

8120

corporation, but for the purposes of efficiency, the purposes of making sure that we don't make mistakes, I am very anxious—in having the benefit of advice, I am very anxious to get the kind of board that I had here in Washington, a board of which at least half of it is made up of very promi-

—3,412—

nent, independent, local citizens, the same kind of board I have worked with here in Washington.

In St. Louis, at present, it is really made up of the officers of the company, nobody else connected with it, and I

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don't like that, and I want to get it just as soon as we can to get a board of perhaps eleven, with five or six independent citizens of St. Louis right on the board, and then, perhaps, officers of the company. That is all right. There is a tremendous advantage to the man that is operating the company to have that, tremendous advantage.

He gets help in all his local problems. He has the responsibility to these independent men to care for not only his personal conduct, but his official conduct, and it is a great help.

8164 *William McClellan—By Respondents—Cross*

Q. In other words, you were retained by various utility companies to appear before the various commissions that we have just described? A. Quite right.

Q. Then I believe you testified that from 1916 to 1919, you were Dean of the Wharton School of Finance and Commerce. Is that right? A. Except for the particular close accuracy of the dates. That shows about the period. I do not mean to say I was there from January 1, 1916, but it was about the period.

8165 Q. Is the Wharton School of Finance and Commerce a school for electrical engineers? A. No, it is a school for just as it is called, Wharton School of Finance and Commerce. It is to give a man training in business.

Q. In other words—— A. (interposing) It has noth-

—3,428—

ing to do with engineering at all.

Q. And durng this period from 1916 to 1919, did you do any work for state commissions? A. I do not believe I did. I can't remember. My firm, my partners, were bothering me all the time because I was so totally away from the firm but

8166 I cannot remember just at the moment——

Q. (interposing) And you confined your activities—— A. (interposing) To work as Dean of the Wharton School entirely and, as I described, to this Intercollegiate Intelligence Bureau which I had in Washington and which I organized while I was Dean of the Wharton School for war purposes.

Q. Then you resigned as Dean in 1919 and went to work for the Cleveland Electric Illuminating Company? A. That is my recollection, that it was fairly close to Armistice Day in 1919.

8122 *William McClellan—By Respondents—Direct*

Q. Do I understand correctly that your aim is and that you are now working to reconstitute the St. Louis management along the lines which have been followed in Washington, Milwaukee and Cleveland? A. Just about, yes. They have the same—it may differ in some details, but the same underlying principal of fixing responsibility and then having it definite and then making the men carry it out, not having any uncertainty as to what a man's responsibility is or that it is his job.

8123 Q. Doctor, I think you mentioned briefly the financing assistance which a North American subsidiary receives from North American. Have any of the subsidiaries with which you have been connected had organizations which have had

the financing experience that North American has had? A. Well, I can speak from personal experience with three of them, because I did do financing with the Cleveland Company when I was vice president—came down to New York and discussed the issuing of bonds and, of course, I went through with the Potomac Company, the first initial bonds

8124 under competition sold some bankers which was a very unique experience.

Secondly, selling bonds to an insurance company, then—that was the two—then, in the St. Louis Company I have had no—done no financial work for them in the way of selling securities, but I know what their facilities are, so I can speak personally for that.

Now, the truth is that up until very recently, when we financed every year, and even then it wouldn't work very well—financing hasn't been done frequently enough to war-

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Q. And you continued with the Cleveland Electric Illuminating Company until sometime in 1921? A. I think that is correct, yes.

Q. During this period while you were associated with the Cleveland Electric Illuminating Company, were you a member of any state commission? A. No.

Q. Were you employed by any state commission during that time? A. I think not.

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Q. Your contacts with commissions during that time, I take it, were with the Ohio state commission? A. With the Ohio state commission and there may have been some others because my business firm was still going on. It was never interrupted.

Q. Your engineering firm? A. Engineering firm but, of course, I devoted practically all of my time—as a matter of fact, I did not live in Cleveland. I went out there every week.

Q. Then you stated that in 1921 you left Cleveland Electric Illuminating Company and formed the engineering firm of McClellan and Junkersfeld? A. That is right.

8169

Q. And you continued with that firm until 1929, is that correct? A. I cannot be sure of the exact date. Yes, I think that is probably correct, as far as I can get at it. It is probably correct.

Q. I believe you stated that during this period between 1922 and 1929, the preponderance of your work was with utility companies, assisting them in the construction of plants and acting as consulting engineer for various utility companies? A. I should say the preponderance of it in dollar

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rant any of these companies in keeping a sufficiently expert financial organization to do everything connected with the financing, just not in the goods.

The result is that Cleveland had nobody. As a matter of fact, the only two people that participated in that financing were Mr. Lindsay and myself, with some discussions with the board of directors, because Lindsay had some independent members on his board of directors.

In the Washington situation there was nobody except myself and Mr. Neal, who is now president, and members

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—3,414—

of the Board of Directors who have discussed financing, but none of them could have possibly given me all the help I needed in connection with that financing.

I don't mean to say that we couldn't have financed without New York, by some means; I am not saying anything like that, but I am saying I could not have done it as well and if we had tried to do it ourselves, I would have had to try to get help such as New York gave me and, personally, I don't think that help is available.

8127

Q. Does North American help in these financing matters result in substantial savings to the subsidiary companies? A. It has been my belief that that is true. I can't measure the savings. There is no way I can do that. But it has been my opinion, definitely, that we are better off to have their help financially than we would be otherwise.

Q. Now, Doctor, we have had various testimony from Messrs. Stokes and Michel, as to the contacts of the St. Louis organization with other subsidiaries of The North American Company. As a chief executive of the St. Louis

Company, are you interested in the maintenance of these contacts? A. Yes, very much so. Not only as chief executive, but because, in past years, I have, personally, had opportunities to find out the real value of these committees to the individual companies.

—3,415—

Q. What value do they have? A. Oh, they have this value, that you are able to get together a group of men doing the same kind of work, solving the same kind of problems,
8129 but because of the peculiar relationship, they have no inhibitions at all about telling everything they know. I mean, as distinct from going to any trade organization or anything like that, where the management would probably not let these—these fellows would have the impression the management didn't want them to do it.

Here, in this committee, they just let everything down because of their peculiar membership in this one North American family and that gives a comparison of the problems; it gives an insight to the problems; it gives information that I don't believe you could get in any other way.

8130 Q. Does any such intimate relationship exist between non-affiliated companies so far as you know? A. I know of no such relation except the big general trade organizations like Edison Institute Committees and things like that where everybody that is associated with business comes into it, but there is no sub-grouping of committees——

Q. (Interposing) I mean, does this intimate inter-family relationship exist in the large trade organizations? A. Not that I know of. Not at all. I tried to say that you go to that and it is a much more formal participation. This is an intimate personal participation.

—3,416—

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Q. For example, did the Potomac Company have any intimate contact with the company in Baltimore? A. Hardly any. Even to this time it is surprising how little we ever had in common.

Q. Well, what is the essential element in this relationship? A. Well, I think the essential element in the relationship is the—call it what you please—the compelling urge because members of a family are in general financial control of the companies, there is an intimate relation between them, they are expected to do it because of this relationship at the top.

8132

I don't think today that if it weren't for the relationship that binds Missouri and Wisconsin in the same system, I don't believe these things will persist.

I think, if they were even entirely separate, why, I believe, the committee work would stop. I think there would be some earnest souls try to keep it up for its value, but I think the inherent binding force would be gone.

Mr. Odell: May I get Mr. Browning's question that led to that answer?

8133

(Whereupon, the question was read by the reporter.)

By Mr. Browning:

Q. Doctor, are you aware of any competitive feeling between the various subsidiaries of The North American system? A. Oh, yes; oh, yes. Of course, there is a very intense

competitive feeling. It shows itself in lots of ways. When

these reports come out on unit costs of various kinds, whether it would be per kilowatt hour generated or whether it would be cost of billing, which is furnished the accounting department, whatever it refers to, there is a great racket and fuss and feathers.

My men will come into my own office and say, "Look at this." They watch the relative costs that come in. I don't believe they are doing it sometimes. I say, "Well, maybe they are. I don't believe they have got all their costs in."

8135 In other words, there is evidence to me that there is lots of competitive stuff and they don't do it with other people. It is just our own companies.

Of course, they don't get it in Chicago, so easily. They don't get it in Cincinnati because they can't see it as easily and they don't know how the things are kept, but nevertheless, there is intense—one man prides himself on the most efficient powerhouse in the world.

The other fellow will say, "That doesn't count, it is the powerhouse that makes the lowest cost per kilowatt hour. Ours is cheaper." There is a lot of intense competition. They

8136 don't like it if the other fellow shows them up.

Q. By "the other fellow" you mean the fellow in the family? A. Yes, that is all we get unless for some reason

they ask for it. Then they wouldn't get it the same way.

Q. Doctor, through the years you have had, according to your testimony, rather constant contact with the executives of The North American Company, and particularly during the period when you have been an executive of a subsidiary operating company. Have these contacts been of

value to you as an executive of the operating company? A. They have, and so much so that I wondered why they weren't made more frequently because, when we did have them, they were found to be very, very valuable and I could show you some correspondence that contacts occurred sometimes through the years of some body. I would write to Milwaukee——

Q. (Interposing) I am talking about your contacts with The North American officials. A. North American officials? I beg your pardon. I was thinking of contacts with some 8138
of the others. That is all wrong. With North American officials there is no question of that. Mr. Fogarty, on everything that has to do with financial matters and, as a matter of fact, having been traveling auditor ever since he was a kid with The North American system, all he knew about general matters of that sort was extremely valuable. The vice president, Mr.——

Q. (Interposing) Freeman. A. (Continuing) —Freeman, of course, we carried problem after problem to him.

—3,419— 8139

Advice giving, not orders, but just advice was of great value.

When Mr. Doolittle was the vice president on engineering matters, of course, he had no big staff or anything like that to solve the problems for you, but it was tremendously valuable to talk to that vice president and then the king of them all, in my opinion, was Mr. Dame, when he was living, who fought, bled and died in every phase of public utility life. He was of great help.

When there was talk of the North American Company getting out of Washington and I was still here as president.

8146 *Colloquy*

Mr. Browning: That is all.

(Discussion off the record.)

The Examiner: We will now recess until 2:00 o'clock tomorrow.

(Whereupon, at 5:40 o'clock p. m., the hearing adjourned until 2:00 o'clock p. m., Thursday, November 14, 1940.)

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8149

BEFORE THE

Securities and Exchange Commission

Docket No. 59-10

IN THE MATTER

of

THE NORTH AMERICAN COMPANY, *et al.*

8150

Hearing Room 1103,
Securities and Exchange Commission Bldg.,
Washington, D. C.,
Thursday, November 14, 1940.

8151

Met, pursuant to adjournment, at 2:00 o'clock p.m.

Before: W. W. SWIFT, *Trial Examiner.*

Appearances:

HERMAN ODELL, Attorney on behalf of the Securities and Exchange Commission.

8152 *Colloquy*

PROCEEDINGS

The Examiner: The hearing will come to order.

Mr. Odell: Mr. Examiner, counsel for Respondents and I have agreed to defer the cross examination of Dr. McClellan until Monday morning at 10:00 o'clock.

A continuance of the hearing until that time will also be acceptable to us.

I, therefore, move that this hearing be continued until
8153 Monday morning at 10:00 o'clock.

The Examiner: Very well, the motion is granted and the hearing is continued until next Monday morning at 10:00 a.m. That is November 18.

(Whereupon, at 2:05 o'clock p.m. the hearing was adjourned until 10:00 o'clock a.m., Monday, November 18, 1940.)

—3,424—

8154

BEFORE THE 8155

Securities and Exchange Commission

Docket No. 59-10

IN THE MATTER

of

THE NORTH AMERICAN COMPANY, *et al.* 8156

Hearing Room 1101,
Securities and Exchange Commission Bldg.,
Washington, D. C.,
Monday, November 18, 1940.

Met, pursuant to adjournment, at 10:00 o'clock a.m. 8157

Before: W. W. SWIFT, *Trial Examiner.*

Appearances:

S. PEARCE BROWNING, JR., and CHARLES S. HAMILTON, JR., of Sullivan & Cromwell, 48 Wall Street, New York City.

RALPH C. BINFORD, and HERMAN ODELL, Attorneys for the Securities and Exchange Commission.

8170 *William McClellan—By Respondents—Cross*

value. I think that is quite true. We did a lot of other

—3,430—

industrial work. It was all construction work with a relatively small amount of reporting.

Q. You stated that sometime during this period, you worked for the New York Commission in a matter involving the New York Edison Company? A. Yes.

Q. When was that? A. To the best of my recollection, it is somewhere around, it might be the latter part of '28. It

8171 was toward the end of this period before we sold out to Stone and Webster.

Q. What was the nature of that work that you did before the New York Commission in connection with New York Edison Company? A. Well, it was in connection with a rate case, valuation, examination of their operating expenses as to whether or not they were higher than they ought to be, depreciation and non-used and useful property, all of those things that go with a pretty thorough examination of a company's property and operations in connection with a rate case.

8172 Q. You made a valuation of their property? A. Not the usual valuation, not the detailed inventory of everything that they had in a valuation but an examination of the testimony that had been put in by others at which I arrived at a figure which I said represented the valuation. I did not

—3,431—

make, as I had in many other cases, an extended inventory of everything they had but I did submit a valuation.

Q. Who hired you to do this work? A. The Chairman, of course. My memory fails me as to the name but it was

the chairman of the Commission in New York City, and I do not think at that time the Commission had been changed.

Q. My question was directed more to whether the company hired you to do this work or the Commission? A. No, the Commission hired me. I was working for the Commission.

Q. And who paid your fees in connection with that? A. The Commission.

Q. How long did that work continue? A. Maybe a year. It was, I should say, a year. Roughly, that would be the 8174
time, about a year.

Q. Were you in charge of that particular case, having a number of people working under you? A. Yes, I had a number working for me and, of course, I personally put in all of the testimony in regard to it and handled that case personally.

Q. During this period, were you also working with your private engineering firm? A. Yes.

Q. In other words, you were working both with the Com-

—3,432—

mission at that time and taking up your duties in your 8175
private engineering firm? A. Absolutely, yes. It was just a case that really the firm had, although I had agreed to do it personally.

Q. I believe you stated that sometime in 1929, your firm was assumed by Stone and Webster and, thereafter you were employed by them until sometime in 1933, is that correct? A. That is correct.

Q. During the period from 1929 to 1933, were you employed by any state commissions? A. No.

8176 *William McClellan—By Respondents—Cross*

Q. And you were not a member of any state commission? A. No.

Q. Then I believe you stated that from 1933 to 1939, you were with the Potomac Electric Power Company? A. That is right.

Q. And from May, 1939 to the present time, you have been with the Union Electric Company of Missouri? A. That is right.

Q. During this period from 1933 to the present time, were
8177 you a member of any state utility commission? A. No.

Q. Or employed by any state utility commission? A. No, nor have I appeared before any in this period except as an officer of my company.

—3,433—

Q. Considering your career, as a whole, there were only two occasions, once in the period from 1911 to 1913, and again sometime in 1928, when you worked on this New York Edison case that you were employed by the state commissions, is that right? A. Yes, I think that by state commissions, that is all I remember.

8178

The Examiner: Will you read the question and answer, please?

(Whereupon, the last question and answer were read by the reporter.)

By Mr. Odell:

Q. Then, Doctor, based on your experience as an employee of the New York state commission on these two occasions, you were able to testify, as you have, that size

8179

does not impair the effectiveness of regulation by state commissions, is that correct? A. No, that is not my testimony. My testimony is that is the fact but that is not based on just my experience with those commissions. That is not the sole basis of my testimony.

Q. What are the other bases for your conclusions there? A. Wandering around through the country, appearing before many commissions, as I have; going intimately into the affairs of a large number of companies and seeing how they were organized and see how they did their work and doing 8180
that all over the country brought me to that conclusion, not merely working for these commissions. You see——

—3,434—

Q. (interposing) Then, Doctor—— A. (continuing) Let me finish my answer, you see when a man is employed by a corporation to adjust its rates or help with a valuation or something, he gets a very intimate knowledge of whether they are efficient or not and it is all of those things that bring me to the conclusion.

Q. Then your conclusion was based on your personal ex- 8181
perience on two occasions when you were employed with the New York commission, and secondly, on your observations when you were with private engineering firms doing work for state commissions? A. And doing work for corporations which gives me an intimate knowledge of whether they are good or bad.

Q. Do you mind clarifying "good or bad"? To whom are you referring? A. When you get into any corporation to look at its property, value it, look at its rate structure, look at how it is doing its business and how it is organized, you

8182 *William McClellan—By Respondents—Cross*

find out whether they are on their toes to do business and whether they have got good organization to accomplish it and have good public relations or whether they are sloppy, to use a slang term, or inferior. You get all of that knowledge seeing how the inside works.

Q. Doctor, have you also kept yourself informed on the problem of size as it bears on the effective regulation by

—3,435—

state commissions by general reading on the subject? A.
8183 Yes, of course, I have. To answer your que tion, general reading and not only general reading but also observation.

Q. And you have kept yourself abreast of information on this question by doing such reading and by your observation? A. Yes, that is true.

Q. So that, would you say, the conclusions that you have given us are based partly on what you have read on the subject as well as what you have seen, as well as your personal experiences with these companies? A. Yes—the question refers now to what point, what is it?

8184 Mr. Odell: Will you read the question?

(Whereupon, the last question was read by the reporter.)

The Witness: What subject, what point? My conclusions on what?

By Mr. Odell:

Q. Your conclusion that size does not impair effective regulation of public utility companies by state commissions? A. Then that is quite true.

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Q. Are you familiar with the annual reports of the Public Service Commission of New York? A. Not intimately familiar with them. I have not operated in New York. I have had no reason to pay particular attention to those. I

—3,436—

have been very busy with other things. Since I left them, I have not been intimately acquainted with those reports at all. The best I can say is, if some notable case came up, I might look at that for its general effect but I am not familiar with them, no.

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Q. In your reading and study of this question of size as it bears on the effective regulation by state commissions, did you consider the following statement found in the 1937 Annual Report of the Public Service Commission of New York and I am quoting from Volume I of the Report of the Public Service Commission of New York for the year 1937,——

Mr. Browning: May I interpose there—I suggest that he first ask the witness if he read the 1937 report.

Mr. Odell: I believe the witness stated he was not familiar or has not seen these annual reports of the Public Service Commission.

8187

The Witness: I did not say that. I said I was not familiar with them.

By Mr. Odell:

Q. Have you read the 1937 annual report of the Public Service Commission of New York? A. No.

Q. In view of that fact, would you care to contradict the following statements appearing in that report and I quote from Page 39 of Volume I:

—3,437—

8188 *William McClellan—By Respondents—Cross*

The chapter is headed, "Utility Mergers and Consolidations".

"When it became apparent to the Commission that a major unification movement was under way and that a definite statement of policy should be announced, so that all companies contemplating applications to the Commission might know what the Commission would require and what it was aiming to accomplish, a memorandum was prepared and finally adopted on November 10, 1936 outlining a plan to
8189 which all mergers and consolidations would be required to conform. This statement was as follows:

"There have been submitted to the Commission, formally and informally, several plans for the unification of several companies, each of which is now being operated separately. The most important plans relate to companies in the Consolidated case (now called the Consolidated Edison), the Niagara Hudson and the Associated Systems.

"The purposes of these plans are in general to eliminate intermediate companies, to simplify their corporate structures, to enlarge the operating units, to reduce the cost of
8190 service and to reduce the taxes which are being levied upon intercorporate transactions within a single system due to involved corporate relationships.

"Generally, these purposes are to be commended and there long has been need for corporate simplification in many systems, but the most important question is whether the companies or systems resulting therefrom will facilitate or hinder effective regulation. Mere size is a handicap to regulation

—3,438—

A small company can be investigated and even its property

8191

valued in a short time; but to cover a company which serves a large part of the state or has property running into hundreds of millions of dollars, several years and large sums of money are now required because of its size, the area to be covered, the variety of local conditions and the lack of proper records, such as inventories or continuing property records and original cost data. * * * The time and expense required to investigate and value any company or system could be greatly reduced if continuing property records were kept up-to-date, if the books of account showed the original cost, and if the depreciation reserves represented even approximately the amount of depreciation actually existing in the property and if it were not necessary to estimate reproduction costs."

8192

That is all I am going to quote from this statement, Doctor, and I think I read slowly and you heard me.

All I want to ask is, do you want to contradict that statement?

Mr. Browning: Just a minute. Let us examine that a minute.

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(The volume was handed to counsel.)

By Mr. Odell:

Q. All I want to know is whether you want to contradict that statement. I do not care to have you give me any explanation at this time.

—3,439—

The Examiner: Off the record.

(Discussion off the record.)

8194 *William McClellan—By Respondents—Cross*

By Mr. Odell:

Q. Do you care to contradict the following statement appearing in the excerpt which I have just read, "Mere size is a handicap to regulation."? A. I certainly deny that. Mere size is not a handicap to regulation.

Q. Doctor, during your incumbency as president of the Union Electric Company, have you tried to sell any securities in St. Louis? A. No, not a bit.

8195 Q. And during your incumbency, has the situation arisen where the company had to sell any securities in St. Louis or otherwise? A. Nowhere. It has been a constant problem with us, knowing we must sell securities, but no situation has arisen where we have gone out to sell any. I beg your pardon, let me add to that, except in one case where we sold $1,100,000 of common stock of the gas company direct to the North American Company.

Q. Then Doctor, what is the basis for your conclusion as stated on page 3,380 of the record and here is your statement:

8196 "It is almost impossible for us—it would be impossible for us in St. Louis to have a complete financing department

—3,440—

because, in the first place, we can't get all the money in St. Louis.

"Now, that is, of course, a fact that can't be denied."

What is your basis for this statement, "in the first place, we can't get all the money in St. Louis." and your second statement, "Now, that is, of course, a fact that can't be denied."? A. The basis for that statement is, first of all, my

experience in other communities like St. Louis, such as Washington, and general experience, many many talks with bankers. Even in St. Louis, bankers come into my office saying, "Of course, we could not put all of the securities here. We would have to go outside for them", and my general knowledge. To my knowledge, it never has happened with any company of our magnitude any place in the country.

Q. Have you ever faced the bankers in St. Louis with the problem of distributing any securities for you in the past year and a half? A. No. 8198

Q. I see. A. I have talked to them a great deal, though. They have been in to talk to me about doing it.

Q. Does the Union Electric contemplate any financing? A. Yes, it has got to finance, a great deal of financing. It faces a tremendous problem of financing.

—3,441—

Q. In the immediate future? A. In the immediate future. We are spending money hand-over-fist now. In fact, I think very early next spring we will have to get money somewhere.

Q. Doctor, have you been faced with the problem of finding a lawyer in St. Louis who could write a public utility mortgage? A. No. 8199

Q. What is the basis for your statement appearing on page 3,381 of the record which is as follows: "there is hardly a lawyer in St. Louis writes a mortgage in twenty years, especially a public utility mortgage". A. Well, that perhaps is a little bit too conversational and ought to be corrected. I ought to have limited that statement to public utility mortgages and not a general mortgage on a man's house or something like that.

8200 *William McClellan—By Respondents—Cross*

Q. I think the statement is limited that way. I want to know whether you have been faced with the problem of finding a lawyer in St. Louis who could write a public utility mortgage for you? A. No, but I know the public utility mortgages more or less that have been written in St. Louis and I know how it is always done, almost always done, and consequently, I think I am safe in making that statement.

Q. You say you have studied public utility company mort-

—3,442—

8201 gages? A. No. There are only two or three public utilities in St. Louis and I know they have mortgages and, therefore, inasmuch as there is no public utility mortgages except ours in St. Louis that really amount to anything of that big a nature, I am safe in saying there is hardly a lawyer who could do it. It isn't as if there were 100 or 200 of these public utility mortgages made in St. Louis and, therefore, you might find lawyers who could do it, but there is very little of that kind of business in St. Louis or any other city, for that matter. Incidentally, that does not challenge the St. Louis lawyer except he does not have a chance to get the ex-

8202 perience.

Q. Have you consulted with other people on this question of finding a lawyer in St. Louis who could write a public utility mortgage? A. No, I haven't had to write a mortgage so I haven't had to consult anybody about it.

Q. Your conclusions, then, on that point are based on the fact that there are few public utility companies in St. Louis? A. Few mortgages. It isn't often that mortgages are written.

Q. Have all of those mortgages that have been written been written by lawyers other than St. Louis lawyers? A.

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They probably have all been written just like our own, St.

—3,443—

Louis lawyers doing what they could in conjunction with specialists in New York or somewhere else. That is the way those things are usually handled, local lawyers do what they can on it and supply what they can but they work in conjunction with specialists from large places.

Q. Have you participated in past financing operations in St. Louis? A. No.

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Q. Where mortgages were written? A. No.

Q. Do you know whether those mortgages which have been written have been written by St. Louis lawyers or lawyers from other parts of the country? A. No, I do not know. That was an expression of opinion based on my rather broad general experience in those things but not from direct experience in St. Louis.

Q. What are the functions of the Union Electric Company of Missouri and its subsidiaries other than financing which you state cannot be performed in St. Louis? A. What are the functions?

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Q. Yes, other than financing which cannot be performed in St. Louis. A. Well, the principal other function, of course, as I testified, we have got to go outside of St. Louis to buy a lot of things, a great deal of our equipment and things of that sort. We must, from time to time, go outside of St.

—3,445—

Louis to get personnel. Sometimes we cannot find anybody adequately trained in St. Louis. That is the only time we do go out, when we must go out and beyond that, we have the very large question of going outside of St. Louis for

certain help such as engineering firms, law firms, to do specialized tasks that we cannot find anybody to do there or after trying, think that we can't find anybody in St. Louis with the requisite experience to do it and then, above all that, comes the great question of policy, corporate decisions, in general, in which, if we go outside of St. Louis we get prospective on those we get experience in handling lots of other properties, and we get, and especially proper, those who have the same sort of interest in the St. Louis problem
8207 that the local managers have.

A great many questions come up in regard to just what shall be done in the way of public policy, the question of rates, the question of types of equipment to put in. These committees, for example, are outside of St. Louis. We get help from those and I personally have had experience with those committees and know how valuable they are and so——

Q. (interposing) I am referring more, Doctor, to the operating functions of Union Electric Company and its subsidiaries. A. The operating functions?

8208 Q. Yes. A. That is, to a large extent, localized in St.

—3,446—

Louis. The mere operating functions, putting the kilowatt hours on the wire.

Q. I see. A. Except for these other things I have talked about.

Q. Since you have been president of Union Electric Company of St. Louis, have there been instances where you had to go to engineering firms outside the city of St. Louis for advice and assistance? A. Yes. We have a man, for

example, I can't think of his name at the moment, whom we employ to look into our rate structure. We have brought men from some of the other companies of the North American system. We have had a man looking into our customer information service. We have Stone and Webster, of course, of New York City and Boston building our power house and working on the designs or specifications, things of that sort.

Q. Is that on the additions to your Venice plant? A. Yes. We had trouble on one of our transmission lines to Bagnell. The foundations of the poles were giving way and we brought 8210
Stone and Webster in to help us. My own men came to me in that case and said, "We could do this but we do not feel we have had all of the experience and we think we had better get somebody like Stone and Webster who has had general experience to tell us how to fix these things. If we do it it might be more expensive" and, therefore, in response to their

request, I brought in Stone and Webster.

Q. Would you say that presented an acute problem which required the assistance of outside engineering firms? 8211
A. I would say that is an acute problem that made the assistance advisable. I am not saying we could not have fixed that, that things would have gone to pot and fallen down, but it was advisable in the minds of the men who were there though not required absolutely.

Q. Have there been any other instances of the Union and its subsidiaries where you have called on outside engineering firms for assistance?

Mr. Browning: By "outside engineering firms", you mean outside of North American?

8212 *William McClellan—By Respondents—Cross*

Mr. Odell: And outside of St. Louis.

Mr. Browning: In other words, firms like Stone and Webster?

Mr. Odell: Yes.

The Witness: You mean firms and individuals too, I presume?

Mr. Odell: Yes.

The Witness: Mr. Campion is working for the Potomac Company.

8213

By Mr. Odell:

Q. Just a moment. I am asking for persons not associated with the North American system. A. No, I can't

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recall any further instances than those that I have mentioned, if they are outside of the North American system, but when these men come from the North American system, they do not come as gifts. We employ them.

Q. Will you identify the firm of Stone and Webster?

8214 A. Stone and Webster Engineering Corporation is its corporate title.

Q. It is not affiliated with the North American system other than its work with the North American system?

Mr. Browning: I object to the word "affiliated".

The Witness: I can't speak for the affiliation. I do not know anything about affiliation but I know they are an outside independent firm that we employ that way. I do not know whether they are affiliated or not.

By Mr. Odell:

Q. I believe you stated, Doctor, that at one time you were associated with Cleveland Electric Illuminating Company, Potomac Electric Power Company and now with the Union Electric Company of Missouri. During the times that you were associated with these various companies, did you ever try to arrange for any financing without the aid of the North American Company? A. No, never. It was an avowed policy on our part not to do it. We made use of the 8216
North American facilities, of course, in financing.

Q. During the course of your career, have you ever par-

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ticipated in financing operations without the aid of North American Company? A. Well, certainly not to amount to anything. I cannot think now whether I did anything with Mr. Huntley of Buffalo General Electric Company. My memory does not serve me there but certainly nothing of any importance.

Q. Have you ever made a study or investigation of the facilities and the advice available to you in the event that 8217
you did not desire to call upon North American Company for their assistance in financial operations? A. Well, I faced that in Cleveland, I faced that problem in Cleveland when Mr. Lindsay, the president of the company, and I came down to New York to see National City, Dillon, Read, Spencer Trask, in regard to financing. I faced it in the first Potomac issue which was worked out and required by the Public Utilities Commission to be offered to bankers in competition with each other.

8218 *William McClellan—By Respondents—Cross*

I faced it in the second issue that I handled with the Potomac Company and those are the three direct ones.

Now, I have seen it by what might be called collateral experience in North American, other people talking. There have been hundreds of conversations about it.

Mr. Odell: May I interrupt and ask that the question be read again to Dr. McClellan?

The Examiner: Yes. Read the question.

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8219

(Whereupon, the last question was read by the reporter.)

The Witness: Yes, certainly.

By Mr. Odell:

Q. You made a study of the facilities available to you? A. Yes.

Q. What did your study consist of? A. Conversations with bankers, conversations with people that are selling securities and the fundamental fact is that they are interested in their own interests and not in mine and, therefore,

8220 would never be available to me for the same kind of help that the North American would be.

We do not take the information from salesmen of pumps, say, without finding out something about it because we know the pump man is going to talk his pump and going to look after his own interest and if we want advice, we have got to have somebody looking after our interests.

Q. Well, you say you have made a study. What was the purpose of it? A. It has been a continual study. If you mean a special study, there is no way of making a study.

It is a continual study. It is a fundamental fact that you do not go to people who have other interests than yours.

Q. Have you ever called upon investment banking firms for advice and assistance in connection with a financing operation? Certainly.

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Q. Have you done so without first discussing this matter with the officials of North American Company? A. No.

Q. Without first consulting with the officials of the North American Company, have you ever discussed with investment 8222 bankers, the type of security you should offer, the interest rate or the dividend rate? A. Not a directed discussion toward the issue of any security, but many discussions by the bankers coming in to see me and suggesting that we could do certain things and all that sort of thing but no directed discussion with a banker toward the definite issuing of certain securities.

In other words, when the problem comes up to issue the securities, we do not go to bankers and talk about it until we have discussed the matter with the North American Company. 8223

Q. In other words, without first consulting the North American Company, you have never gone to an investment banker and said, "Look here, we need some more money here and I want you to give me your ideas as to what kind of security we should offer"? A. No, not without first discussion with North American.

Q. Have you ever done it after consulting with the North American Company? A. Yes. I have sounded out some times local bankers and it is pretty difficult to disassociate the

—3,452—

two, the North American from the other because the North American being in it from the beginning, I might go to somebody and talk, yes, but I cannot remember exact cases now. I know that I have, particularly one or two in Washington.

Q. Have you ever made a study of the financing operations of utility companies who are not part of a holding company system? A. No, I can't say that I have made any investigation of them, except as to the results of the financing when it was done but not as to methods.

8225 Q. You never made any study as to the methods? A. No.

Q. But you say you made a study of the results? A. I observed them and see that they come out with a certain kind of security, certain features in connection with it, and compare that with our own. That is what I meant by results.

Q. Have you ever made a study to determine whether, in those particular cases, looking at the results of these utility companies, whether the security that they issued was the best type of security for the company? A. No.

Q. Did you ever study these results to determine whether or not the utility company was paying a higher interest or 8226 dividend rate than was required under the circumstances?

A. No, it would be very difficult from the outside to determine that any way without knowing a great many details.

Q. Are you familiar with the Southern California Edison Company? A. Oh, somewhat, not in detail at all. I built a power house out in San Francisco and I got acquainted in a general way but I really do not know.

Q. Do you know whether that company is a subsidiary of a holding company? A. I think not, if my memory serves me.

8227

Q. Are you familiar with their recent financing operations? A. No.

Q. Have you seen any reports of their recent financing operations? A. No, I do not recall any. As I say, I can't remember. I know there was something advertised in the paper and things like that but that is all. I do not know when it was they did it even.

Q. In 1935, Southern California Edison Company issued and sold $108,000,000 worth of bonds with a 3-3/4 interest rate. Are you familiar with that particular operation? A. No, indeed.

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Q. In October, 1940, the Southern California Edison Company issued and sold $108,000,000 of bonds to refund the

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bonds that had been issued in 1935—

Mr. Browning: (Interposing) I move to strike the statement.

Mr. Odell: Do you mind if I finish my question?

Mr. Browning: No.

Mr. Odell: (continuing) at a price to yield 2-7/8 per cent. Are you familiar with that operation?

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The Examiner: Just a minute. Read that whole question to me, please.

(Whereupon, the pending question was read by the reporter.)

Mr. Browning: I move to strike both of the last two questions on the ground that they are mere statements of fact which do not appear in the record.

8230 *Colloquy*

Mr. Odell: I think that both of those statements are a matter of public record and I am merely asking the witness whether or not he is familiar with those statements.

Mr. Browning: I have no objection to counsel asking the witness if he is familiar with the 1935 and 1940 financing operatings of Southern California Edison Company and developing any information which the witness may have. What I object to is making these
8231 statements of fact for the record by counsel.

Accordingly, I renew my motion to strike.

The Examiner: Mr. Odell, is the suggestion of counsel acceptable to you? Is that the purpose of your inquiry along this line as to whether the witness is familiar with those two issues?

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Mr. Odell: Well, he said that he is familiar with them to the extent to what he has read or seen in newspapers on that.

8232 The Witness: I did not say that.

Mr. Odell: I may have misunderstood but I think the record will show he stated something similar to that.

The Witness: If it does, it is wrong.

Mr. Browning: My suggestion is that the two questions and answers be stricken and that counsel pursue the line of what does the witness know about any financing operation that Southern California Edison Company may have carried on.

Colloquy

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Mr. Odell: I think he has already testified to that and if the reporter will go back and read the record, it will so show.

The Examiner: Off the record.

(Discusssion off the record.)

Mr. Browning: I move to strike.

Mr. Odell: I think the way my question is worded, I am asking whether he is familiar with those two particular financial operations.

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Mr. Browning: I have no objection to that question but I renew my motion to strike the last two questions.

The Examiner: I will grant the motion but you may ask him whether he is familiar with those two issues.

Mr. Browning: Are we striking that physically

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from the record?

The Examiner: No, the record will stand as it is.

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Mr. Odell: Off the record.

(Discussion off the record.)

Mr. Odell: Could we have a short recess?

The Examiner: Yes.

(Whereupon, a short recess was had after which the hearing was resumed.)

The Examiner: Are you ready to resume?

Mr. Odell: Yes.

8236 *William McClellan—By Respondents—Cross*

By Mr. Odell:

Q. Dr. McClellan, as an engineer, are you in favor of the dissemination of information on matters constituting contributions to the art? A. Very much so.

Q. Would you say that the engineering profession, as a whole, is in favor of dissemination of such information? A. I would say that it was, as a whole, in favor of that except, of course, where private interests are involved, such as a man
8237 who is developing a process which he expects to patent, for example. He is not telling the world about it and thing of that sort.

Q. With the exception of an instance like that? A. Not only that instance but you might accumulate instances, I do not know. Sometimes when you are performing an experi-

ment and do not expect to patent it, you do not care to tell much about the progress of your developments until you are satisfied yourself of it even though there is no patent involved. You would not let outsiders know about it until
8238 you are pretty sure that the experiment, so to speak, was finished. You would not give them progress reports of the experiment, for example. You would not care to do that.

In fact, there have been some very important scientific men who have waited a good many years to be sure what they would say before they would publish it and the same way with companies. They might be carrying on experiments and even thought they might expect to tell the public about them later, they would not tell about them in the meantime.

Q. Would you say in the last example you gave, where the engineer for the company conducting those experiments

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knew that an engineer in another company was faced with similar problems, would you say that it would be uncommon, in the engineering profession, for those two engineers, faced with substantially the same problem, to consult with each other? A. No, I would say, from my own experience, I would say that he would hardly ever refuse to consult with the other engineer. It is a question of how far he would consult.

Q. But he certainly would not keep silent on the question if he knew another engineer was faced with substantially the same problem and was experimenting with that problem? 8240

—3,458—

A. He might tell the whole story. He would not go into the details. He might speak generally, for reasons of his own, but fundamentally, the attitude is to exchange information but not necessarily or completely or wholly or to tell the whole story. I think that same thing applies to other professions too. Even lawyers, I think, would exchange generalities, but I am not sure they would tell everything respecting their cases. Some engineers are the same way.

8241

Q. Would you say, Dr. McClellan, that in the course of your association with North American Company, that you have become familiar with the operating heads, at least, of the Cleveland Electric Illuminating Company, the Wisconsin-Michigan group of companies and the Potomac Electric Power Company? A. Yes, I would say so. I would go even further and say I have gotten acquainted with all of the North American upper men.

Q. Would that also include the important engineers on the staffs of each of those companies? A. To a less degree.

8242 *William McClellan—By Respondents—Cross*

In my later years since I have become an executive, not so much with those men as I did, maybe 15 or 20 years ago when I was more directly concerned with engineering.

Q. Speaking generally, you, at least, know the men who are considered to be the important engineers in each system? A. Yes, I think that is true. I have a bad memory. I might

—3,459—

not even be able to give the names in some cases, but if the
8243 names were mentioned, I would know them.

Q. Would it be inaccurate for me to say that you consider such men to be your friends? A. In the North American system?

Q. Yes. A. Why, they are undoubtedly friends, but if you mean they always act like friends, no, especially if they have criticism to make, they certainly do come at you sometimes with criticisms.

Q. Isn't that a gesture typical of friendship? A. It may be but I mean they certainly do not pull their punches because of any friendship. That is what I mean, but I do
8244 really think they are friends.

Q. And I take it that you respect the ability of these men as executives and engineers? A. I certainly do and on two occasions, I have gone to them on that basis because I did respect their abilities and their opinions and the help they could give me.

Q. Would I be assuming too much if I said that that feeling was mutual? A. Well, no, I do not think you would be assuming too much. I think they regard me as their friend, if that is what you mean by mutual.

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Q. Assume, Doctor, that your company, Union Electric

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Company, has solved the problem in engineering or general operation which either the Cleveland property or the Washington property is faced with. Let us assume further that these companies are not subsidiaries of the North American Company. Would you refuse to permit the members of your staff to give, say, the engineers of the Cleveland property or the engineers of the Washington property the benefit of the collective knowledge of your company on a 8246
problem that you have already solved and which one of these companies is faced with? A. Quite the contrary, not only would not refuse to give it but it is given. I mean everyone of those things, the results, when they are completed and ended is discussed in this committee and the boys know they have a free for-all position to the last——

Q. (interposing) I am postulating that situation, at a time, we will say, when Cleveland Electric or Washington and the Union Electric properties are no longer subsidiaries. Assume that situation. A. Would I refuse?

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Q. Yes. A. No, I would not refuse ever, I do not believe, except I can't tell whether I would or would not keep it until I get to the specific case because there might be cases in which something more was involved than the information I don't know. Generally speaking, I would not refuse.

—3,461—

Q. Aside from—— A. (interposing) If they came and asked for it.

Q. Aside from an exceptional situation? A. Generally speaking, if they came and asked for it, they would get it,

8248 *William McClellan—By Respondents—Cross*

a great deal of it. In fact, somebody might write a paper and give it all, give it to the whole world to know.

Q. And knowing the executives in the other companies, would you expect a request from you to such companies, under similar circumstances, would be treated in a similar manner? A. No, I would not expect that. In my experience, I have wanted information sometimes and I either haven't had the nerve or something like that just to ask for it. On the other hand, if I knew the man intimately, I
8249 would have less hesitancy in asking but if I was totally unacquainted, I might write a general letter suggesting that I would like to have it but I would not think I had any right to it and I know in some cases, there are companies—I cannot name individual companies—but it just comes to the back of my head that sometime I have been refused. Some men seem to want to be pretty close mouthed, I don't know why. It has not been my policy.

Q. Can you give us the details? A. I told you I couldn't. I told you it is in the back of my head I did not get the same kind of enthusiastic response from everybody.

8250 —3,462—

Q. But knowing these executives of the other companies as you do and considering your long acquaintanceship with these men, you would not expect to be summarily turned down by them, would you? A. I would not, because I have an extraordinarily wide acquaintance and I think I am luckier than some.

Q. Mr. McClellan—— A. (interposing) One thing, let me say, let me add to that. May I add to it? May I add to it to explain just why I say that?

The Examiner: Yes, you have that right.

The Witness: One thing is, one great difficulty we have in asking for information from other companies; there is hardly a letter we don't put in "This, of course, will not be made public and will not be used anywhere. This is for our private information."

A lot of presidents, under those circumstances, would not even trust us because some of the information we are giving them might not be put into evidence, or something like that, the way we would like to have 8252
it and they won't trust us, confidentially, that is the reason. That is one of the fundamental troubles we have, if you are not in a family or connected.

By Mr. Odeil:

Q. I am referring to a situation, Doctor, where information you would receive from such other company would be the kind of information that you would use in improving

—3,463—

your own operations, it would be used in connection with a specific engineering or operating problem that you were then faced with. A. Even that isn't always clear. In all the letters I write I say, "I will not make this public. I will use it for my private use", but what I am trying to bring out is the other man won't take my statement 100 per cent and even at times, he is reluctant to give me that information in that manner. 8253

Q. I assume the other man assumed you would not use this information that would result to his detriment that, barring that, he would give you the information? A. I think

8254 *William McClellan—By Respondents—Cross*

so, but I am bringing out everybody could not do that. Some companies might not get it. I might and somebody else might not.

If the companies that are presently subsidiaries of the North American Company cease to be so, would you say that your friendship with the operating heads of these various companies would cease? A. No, those friendships are personal.

Q. And you believe that they would continue? A. I think
8255 they would continue without question, personal friendships with the officers of the other companies, yes, sir.

Q. Doctor, you have referred to reports on unit costs of various kinds that each company gets up. I do not think

—3,464—

that you described very many of these reports or more than one or two. Your statement on that point was as follows:

"When these reports come out on unit costs of various kinds, whether it would be per kilowatt hour generated or whether it would be cost of billing". Those are the two reports, I believe, that you referred to, unit cost per kilowatt
8256 hour and unit cost of billing. A. There are hundreds of costs; unit cost per kilowatt hour——

Q. (interposing) I am referring now to the reports that are distributed to the various companies. A. Well, we all gather together, all the companies of the system, but we file first a general operating statement. It is sent to New York. We also file a detailed operating statement in far greater detail than the ordinary summarized operating statement. That is taken by statisticians and others in New York and analyzed down into reports that come to us, I think

monthly, as long as this and as high as that (indicating) with a great list of items all down the side and then here are the companies and I can tell, for example—I merely mentioned two costs of perhaps 40, 50, 60 that are in this list. I don't know whether it has been put in evidence by others or not.

Mr. Browning: I expect to offer those later.

Mr. Odell: I see.

The Witness: One of those, for instance, we find it —3,465— 8258

costs us X cents per bill to bill a customer, Wisconsin Y cents and Washington Z cents and so on. Now, we look at those and we wonder why, if ours is high, why it is high. If it is low, we sort of tickle ourselves and let the other fellow worry.

Now, there is a great list of those things, B. t. u.'s for the power station, B.t.u.'s per kilowatt hour; pounds of coal per kilowatt hour, a lot of other things per kilowatt hour and then a lot of things, per customer, per customer, per customer, and a great list of things, you see, for all of these companies on that 8259 sheet. It shows just what we are all doing for these several items and, of course, if we are high compared to the others, then we all get excited. That is the point I am trying to bring out and if we are low, I say, we sort of chuckle.

Q. And each of these operating companies then assemble this information that refers to their particular company, and it is sent to New York for preparation into a table showing comparative performance? A. That is right, but New

8260 York has to do some analysis on it because, for one reason or another, perhaps we group under, let's say commercial expenses, we group something that another company doesn't so New York sort of takes that out and gets an adjusted cost to try to make it really comparative. That is the point.

Q. I take it this information that is assembled by each

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of the operating companies is assembled as much for its own information as for the purpose of distributing or sending it
8261 to New York? A. Yes, that we would do, of course, so far as that is concerned. We would want to know what our billing expense was per customer, for example, even if we did not send it to New York naturally, and then we try to scout around. I have done it with other companies but we do not get very far because we have no way of knowing how they keep their expenses and the comparisons are almost worthless, in many cases, because we cannot go into their business and find out how they do it.

Q. I take it that these reports that each of the operating companies assemble, a number of copies are made of that re-
8262 port so the executives within the companies may have a copy? A. Well, we get a copy to keep——

Q. (interposing) There is more than one copy. I am referring to the records or the information that is assembled by the operating company. My question was whether there was more than one copy made? A. There are at least two copies made but, as a rule, they are so expensive to typewrite and copy up we do not make a huge number of copies. What we do, there may be three copies, for example, one may come to me, one to the comptroller who makes up the report

and who keeps one copy in his file for record purposes, and then there is a second copy and on that there is a slip of

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paper with 6 or 8 or 10 names and it circulates around each of those men, they look at it and check it off, so far as their work is concerned, and that is the general system. Now, there might be five copies made of some reports, I don't know. Sometimes the chief engineer wants one to keep and we will say, all right, make an extra copy. That is sort of inside the company, for mere convenience, what we call the work- 8264
ing copies and the number we make of those may depend on circumstances. There may be one working copy, there may be five working copies in some other reports. I do not know. I know there is a difference.

Q. I take it the cost and the work involved in reproducing some extra copies of such reports would not be excessive, would it? A. No, it would not be excessive, maybe, in dollars and cents, but what to do with them after you reproduce some of them, load the files up with them and have them all around, extra working copies——

Q. (interposing) Let me stop you, Dr. McClellan. As- 8265
sume they were not retained in your files and you had people to whom you could send them. Would there be any great problems involved in reproducing some extra copies? A. No, it would not be huge.

Q. It wouldn't be huge, you say? A. Because you can make carbon copies, if you want one, but if you want many,

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you have to go to the expense of photostating or mimeographing and all that sort of things, but the expense multiplied by the number of things we do is a figure we are trying to

cut down all the time. It isn't a joke. It isn't just nominal. It takes a lot of time, too, when you get to it and the total expense is not cheap.

Q. Dr. McClellan, I believe you stated at various times in your career you were responsible for the management of the Washington properties, namely Potomac Electric Power. You were also associated with Cleveland Electric Illuminating Company in an executive capacity and, at the present time, you are president of Union Electric Company of Mis-
8267 souri. Have you ever been responsible for the management of two or more of these companies at the same time? A. Never for the management of more than one company at one time. At the present time, I do not want to have the record overlook anything, at the present time I am still a director so my responsibility of management ends with whatever director responsibility one has but nothing else.

Mr. Browning: Could we clarify that?

Mr. Odell: Yes.

The Witness: I am a director of the Potomac Elec-
8268 tric Company. I am a director of the W. R. & E. Company, and I am also chairman of the board of the W. R. & E. Company but my responsibility there is limited actually to presiding at board meetings

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and nothing else.

By Mr. Odell:

Q. Have you ever been faced with the problem—— A. (interposing) What problem?

Q. (continuing) of managing two or more of these companies at the same time? A. Never.

Q. Dr. McClellan, when was the last time that you had written an article for publication in an engineering journal? A. I think about one year ago I made a talk on power for preparedness before the St. Louis section of the American Institute of Electrical Engineers which was afterwards assembled and printed as an article but I think that is the only one that I have written in quite a number of years.

Q. Do you recall the time you wrote an article before 8270
the one you last wrote? A. No, I can't recall when. In fact, I never wrote a great many articles. My articles were written on more general subjects, of a more general nature, than engineering. My engineering articles, of which there are a fair number, were largely, sometimes simple and sometimes elaborate, discussions of papers read before societies in which I got up and made some extended remarks on the paper that was under discussion and then, afterwards, I took the proof of it, edited it and put it in shape for publication. I was never a very elaborate writer of articles on engineer-

—3,470— 8271

ing subjects except I have written a great many of the kind I described. I think the last major one I wrote before that was before the N. E. M. A. organization but not on a strictly engineering subject.

Q. Do you recall what the subject was then? A. No, I cannot. It had something to do with the general organization for marketing of equipment and things of that sort as between companies. That was the N. E. M. A., which is the National Electrical Manufacturers Association. I can't

8272 *William McClellan—By Respondents—Cross*

recall that stuff. I have had a good deal of stuff printed but not as formal articles which I sat down and wrote.

Mr. Odell: Off the record.

(Discussion off the record.)

Mr. Odell: Will you read the last answer, please?

(Whereupon, the last answer was read by the reporter.)

8273

By Mr. Odell:

Q. Have you written any articles on the question of size as it affects efficient operation? A. No, not that I can recall.

Q. Have you written any articles on the question of size as it impairs the advantages of localized management? A. No.

Q. Have you written any articles on the question of size as it impairs effective regulation by state commissions? A. No.

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Q. Have you addressed any engineering groups on these questions that I have just enumerated? A. No. The fact of the matter is, it never occurred to me to discuss it. It never has been in my mind a moot question, that there was any room for discussion.

Q. You say you have never discussed these questions before? A. Not publicly. I have never written papers on them, that is what you said, or before engineering organizations.

Q. Yes. Have you ever discussed them in private? I mean outside of things that have been published?

Mr. Browning: Will you read that question?

(Whereupon, the pending question was read by the reporter.)

The Witness: No, I do not think there has been much discussion there even. As I say, I have never met anybody to whom it was a moot question needing any discussion. 8276

By Mr. Odell:

Q. Have you ever made a canvass of engineers, operating executives and other authorities on these questions? A. No, I never thought of it.

Q. When did you start to collect your thought on these questions? A. Well, I suppose—yes, I started to notice them and collect my thoughts on them, I think about 1912 or '13 after I had been a year with the New York Commission which was my first big experience with handling all these 8277

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matters with a great many companies, large and small, in New York state.

Q. May I interrupt for just a moment. What was the complexion of utility companies?

Mr. Browning: When?

By Mr. Odell:

Q. What was the complexion of utility companies in the state of New York? A. I do not know what that means.

8278 *William McClellan—By Respondents—Cross*

Q. Just a moment, at the time you were employed by the New York state commission in the period from 1911 to 1913? A. You will have to define "complexion".

Q. Complexion as to size. A. Size of a utility company?

Q. Will you compare the size of operating utility companies in New York in the period from 1911 to 1913 to the size of utility companies in New York in the period from, we will say, 1930 to 1940? Are there as many companies presently operating as operated then? A. Well, now, I can-

8279 not answer that question without the record before me. In the second place, there may be as many companies operating but I think probably more of them are under holding companies than there were when I was there, but when it comes to size of companies and relative size, which gives me the same kind of an answer, I think the relative size may not

have changed so much. Except for the holding company feature and that I cannot speak by the book, I would have to have the record in front of me.

8280 Q. Do you recall the first occasion when you were called upon to express an opinion as to size affecting the effectiveness of regulation by state utility commissions, size as it affects efficient operation and size as it affects localized management. Do you recall the first time when you were called upon to give an opinion upon that question? A. Why, the first time that the question was ever raised at all was when I read the present holding company bill and I am frank to say I never could understand how it got into the bill that size had anything to do with it and to express an opinion, it was in connection with that bill and when the Union Com-

8281

pany had to make its defense against that bill, that was the first time I ever knew the question was raised. I never would have put it in the bill. I would have said, "too small to regulate", "too small" instead of "too large".

The fact of the matter is——

Q. (interposing) Just a minute. How much time did you give to these general questions before you appeared here to testify? A. Before I appeared here to testify?

Q. Yes. A. As I say, I have been thinking a great deal about it ever since those phrases were used in the Holding

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Company Bill so I have been thinking about it sometimes in a desultory fashion, sometimes more directly ever since it was in the bill and this holding company question came up. Up to that time, I had never heard the question raised.

Mr. Odell: May we have a two minute recess?

The Examiner: All right.

(Whereupon, a short recess was taken after which the hearing was resumed.)

8283

By Mr. Odell:

Q. Dr. McClellan, are you familiar with Mr. Woodbridge's experience in matters of financing? A. Not with the details of what he personally did or anything of that kind except in a very general way. I know the general part he played but I cannot tell just exactly every detail.

Q. Do you know whether he has assisted as to legal matters and financial operations of the Union Electric Company? A. Yes, I know that.

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Q. Then you would say that Mr. Woodbridge is familiar to some extent, at least, with the legal aspects of the financial affairs of the Union Electric Company? A. Oh, yes.

Q. Do you know whether he participated again as to the legal aspects of the distribution of any security issues by

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Union Electric Company? A. Well now, I cannot tell——

Mr. Browning: (interposing) I would like——

8285 Mr. Odell: (interposing) I asked if he knew. He can say yes or no.

The Witness: I think I know, yes, in a very general way.

Mr. Browning: I do not know what the legal aspect of the distribution of securities is. I would suggest a clarification.

The Witness: I can explain what I meant.

By Mr. Odell:

8286 Q. I will explain it; contract with the underwriters, qualification with the S. E. C., qualification with the state regulatory bodies A. Exactly, quite. That is what I meant and also, as I remember, the last distribution had some very short-time chances for exchange. There was a legal aspect to that. I know he was intereseted in that and all of these things you have mentioned, I know, of course, that is the part he takes care of.

Q. Dr. McClellan, do you know whether Mr. Woodbridge participated in the conferences where the question of the type of security, interest rates, was discussed? A. I cannot tell

you whether he participated or not, but I do know that he confesses that not to be in his field. I know that. That is a banking field and whether a security should be sold for a certain price or rates or things of that sort, he regards that

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as banking, I know that. He has told me that not so long ago.

Mr. Odell: That is all for my cross examination.

Redirect Examination by Mr. Browning: 8288

Q. You were asked in some detail about your actual employment by state regulatory commissions and you testified with regard to such employment. In addition to such employment, is it true that you appeared a great many times before state regulatory commissions over a very considerable period of time? A. Yes.

Q. And that you kept in contact with state regulatory commissions, their methods of operation and views? A. Well, during that time when I was appearing all those times that I appeared before these commissions, with the exception of 8289 one, it was for utility companies. I am leaving out the specific time I gave when I was employed by the New York Commission, but those things you are talking about, when I appeared before the Commissions, it was for public utility companies and, of course, I read their reports and read their decisions. It was a part of my business to know how they arrived at their values and rates and everything of that sort and, in those days, I was quite familiar with it.

The single case where I was employed by anybody else than the utility companies was that Lockport City employed

me once in a case to represent it against the utility. That

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was, of course, after I left the Commission. I cannot tell the year, it may have been '14 or '15. That is the only case outside of those other two cases I mentioned when I was employed by the New York Commission that I was employed by other than utility companies and the one case where I was employed by the Chancery Court in New Jersey in connection with a case.

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Q. As the Court's independent expert? A. As the Court's independent expert, yes.

Q. As the chief executive of an operating utility, do you also generally keep in touch with Commission regulation? A. Not very intimately. I have men in my organization that are supposed to be watching that. The lawyers in my organization will call my attention to outstanding points and things of that sort, but it is utterly impossible with all I have to do to read all that stuff and keep intimately acquainted with it as I once did when it was a matter of my

8292 bread and butter.

Q. Now, the views which you have expressed with regard to Commission regulation were based, not only on your employment by State Commissions, but on your entire experience before Commissions and in connection with them? A. That is what it all comes from, yes.

Q. In other words, your views, as you have expressed them, are based on your entire experience throughout your entire career? A. Oh, quite.

Q. You were asked on cross-examination whether you had refused information to non-affiliated companies, that is, to companies outside of the family group, if they came and asked for it, and also you testified as to what would happen if you asked for such information from non-affiliated companies. You have also testified in your direct examination as to the interchange of information between the affiliated

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companies within the North American family group. In your opinion, as a practical matter, would the constant 8294 interchange of information continue between the various North American subsidiaries if the family relationship were discontinued? A. It is my very definite opinion that it would not continue. I think I have said in my previous answer to a similar question that there would be some earnest souls that would think it might continue and would try to do it, but I am sure it would not work out. Without some compelling reason at the top, it would not continue.

Q. As a practical matter, do you know of any case in which a utility company with which you have been connected has constantly exchanged detailed information with 8295 non-affiliated companies? A. I do not know of any cases. I could add to that. I expected, when I made the contract with Baltimore, with the close relation we would have in handling that power, Baltimore and Potomac companies, as when I was president, we would have relations in regard to operating matters but, much to my surprise, I found there was none at all, they made their decisions without consulting us and we made ours without consulting them. It was on a basis of general comity and not specific arrange-

ment, but there is no compelling reason and it just doesn't happen, that is all.

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Q. That is in the absence of common financial interest? A. That is what I mean exactly.

Mr. Odell: I would like to interrupt you. I didn't get part of his answer. Do you mind if she reads it back?

8297 (Whereupon, the preceding answer was read.)

Recross Examination by Mr. Odell:

Q. Mr. McClellan, you referred to the interchange of information between your Baltimore companies and the Washington companies. In your opinion, are the operations of these two companies similar? A. Yes, similar to the extent they are both serving large cities, both have the same kind of problems of growth to meet and both have sales problems, both have company policies. I would say there was quite a similarity between the operations of the companies
8298 on their general basis.

Q. Are you familiar with the men who are the executive heads of the Baltimore company? A. Oh, yes.

Q. Do you respect their ability as engineers? A. Not as engineers.

Q. Well, go ahead. A. Mr. Herbert Wagner is an engineer and so am I, but how much respect he would give me as an engineer these days and how much I would give him, I don't know, but as an executive head I have respect for him.

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Q. As an executive head you have respect for him? A. Yes.

Q. Have you ever discussed with Mr. Wagner the question of exchanging information? A. No.

Q. Between his company and the Washington companies? A. No, not with regard to larger decisions. Of course, don't misunderstand me, there is a lot of minor stuff in the handling of that high-line between two companies, the boys in his company and our company, dispatching the power and things like that, over the use of it, but no discussions at all in re- 8300
gard to general company policy. For example, to give you an illustration of what I mean, I am quite certain we decided to put an extra 50,000 kilowatt generator in Washington and I am quite certain that Baltimore didn't know a thing about our decision to do it, and if they decide to build a station in Baltimore, we wouldn't know a thing about their decision to do it.

Q. Did you ever discuss your decision to build this 50,000 kilowatt station with Mr. Wagner? A. No, not a bit. Of course, this last 50,000—I wasn't here, but the other one I 8301
was in charge of, the one that just went into operation about a month ago.

Q. Now, do you find from your connection with the Washington company,—would you say that the Washington company would benefit from interchange of information with the

Baltimore company? A. Why, if we could get it, just as we would with the Cincinnati company, but no more than the others. That contractual relation doesn't bring it about only for that, except in the use of that particular facility.

8302 Q. I think you have testified to the effect that the companies, subsidiary companies of the North American system have benefited from this interchange of information? A. Well, I haven't the slightest doubt about that.

Q. You have also testified that you are familiar with the operating heads of nearly all of these subsidiary companies in the North American system? A. Yes.

Q. And that you have great respect for their abilities? A. Yes.

8303 Q. In your opinion, would you say that these operating heads are short-sighted businessmen? A. Which operating heads?

Q. Of the various subsidiaries in the North American system. A. No, I have great respect for them. I think they are long-headed and pretty canny.

Q. And do you think that these gentlemen are aware of the value that results from this interchange of information among the subsidiaries? A. Yes.

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8304 Q. I am sure of it. Considering their ability and your opinion of them, do you think that these gentlemen would arbitrarily cut off this interchange of information? A. No.

Mr. Odell: That is all.

The Witness: But wait a minute. They wouldn't arbitrarily cut it off but they wouldn't be able to keep it up, because it is something that permeates the mass. Everybody has got to understand it.

Mr. Odell: I will ask you another question.

Mr. Browning: Read me the last answer, will you?

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(Whereupon, the last answer was read by the reporter.)

Mr. Odell: I have no other questions.

Mr. Browning: That is all.

(Discussion off the record.)

Mr. Browning: We now move for an adjournment of the hearing until Monday, December 9, at 10:00 o'clock a.m.

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The Examiner: No objection to that is there Mr. Odell?

Mr. Odell: No objection.

The Examiner: Very well, the hearing is now continued until December 9 at 10:00 a.m.

(Whereupon, at 12:15 o'clock p.m., the hearing in the above matter was continued until 10:00 o'clock a.m., Monday, December 9, 1940.)

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8307

8308 *Colloquy*

AFTERNOON SESSION

(2:15 P.M.)

The Chairman: Are you ready?

Mr. Binford: Yes, sir.

The Chairman: I understand counsel for North American has moved for a continuance for two weeks.

Mr. Browning: That is correct.

The Chairman: May we ask whether, at the end of any continuance which will be granted, you will be
8309 ready to move forward then with the conclusion of your case without further delay?

Mr. Browning: I took some time during the noon hour trying to work out a schedule. I was a little caught by surprise this morning at the argument. I figured at the noon hour that we would probably be through in five weeks, including adjournments. The way I reached that conclusion was this: We have about three more batches of evidence, if you want to call them that, which we think about as so-called tie-in testimony and the so-called North American general
8310 testimony, and then the third batch is just odds and ends. Now, none of those are at all extensive.

Commissioner Healy: What is the nature of the remaining evidence? What are the issues that you have still got to give testimony about?

Mr. Browning: As to the first batch, the so-called tie-in testimony, Mr. Commissioner, we have now completed the factual presentation with regard to all of the public utility subsidiaries of the North American Company, and all businesses connected with them di-

8311

rectly. In giving that evidence we have not given any evidence substantially with regard to tie-ins between any particular subsidiaries. What we now wish to put in is rather brief additional evidence on this matter of tie-ins. That is in no sense a duplication. We do not intend to duplicate anything that is in this record.

Commissioner Healy: What issue is that directed to?

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Mr. Browning: Well, it is directed, in very large part, to the single integrated systems constituting a system.

Commissioner Healy: What about (A) and (C)?

Mr. Browning: (A) and (C) do not affect the definition of a single integrated system.

Commissioner Healy: What about those issues?

Mr. Browning: Our evidence to date covers (A) and (C).

Commissioner Healy: It does?

Mr. Browning: Yes. We have no thought of duplicating anything which we have put in, and what we have remaining to put in is relatively brief.

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Commissioner Healy: That would close the record on all issues in this case, unless the staff wanted to——

Mr. Browning: (Interposing) Just a moment. Now then, as to the second batch in what I said we referred to, in our own minds, as the so-called North American general testimony, we want to put in certain brief testimony with regard to the North Ameri-

8314 *Colloquy*

can Company itself, its acquisition of these investments, the holdings of them, and very briefly with

—6,850—

respect to the three subsidiaries or groups of subsidiaries which are not public utility subsidiaries. I am referring to North American Utilities Securities Corporation, the West Kentucky Coal Company and its subsidiaries, and the 60 Broadway building.

The Chairman: Could not all that be stipulated?

8315 Mr. Browning: The testimony which I intend to put in regarding those three subsidiaries is going to take about an hour. It would take me so much longer to discuss the stipulation.

The second batch of testimony which I have been discussing is, of course, primarily directed to the constitutional issues in the case. We wanted to be sure we are putting in all the proof that is necessary to try the constitutional issues, but, as I say, it is not very extensive.

Then finally I have referred to odds and ends.

8316 Now in any proceeding of this character you are bound to have odds and ends. People have made motions at various times which have been held in abeyance; the Commission counsel has requested that certain additional matter be furnished for the record; we have a motion to strike the 24 feet of exhibits that the Commission counsel put in.

Mr. Binford: Which motion is not filed. You mean you have in mind the motion.

Mr. Browning: We reserved the right to move to strike, and we intend to move to strike. In regard to

8317

that last matter, if I may give you some indication

—6,851—

of what is involved, I had an emissary come down and make an index of the 24 feet, and he came back and reported he could not make a complete index but he had a partial index, which was 57 pages single spaced, and I think you will appreciate the motion to strike that material will take a little time. What happened was that this stuff was just dumped with no regard to its relevancy or materiality.

8318

Commissioner Eicher: Two pages of index to a foot is not so bad.

Mr. Browning: I thought he did a pretty good job; yes. With all this in view I would personally estimate at this time, and I think we have gotten to the point where we can make a pretty good estimate, that including adjournments we have got about five weeks altogether.

The Chairman: Including adjournments of what nature?

8319

Mr. Browning: That is the point. I suggested this morning and pressed for a two-weeks' adjournment. The reason I did it was that the second week happens to be a particularly unfortunate week for our particular purposes. It is Easter week, Washington is going to be jammed, we have our hotel troubles, and so forth. I realize those difficulties are all restricted to people working on the job. I thought it all over during the lunch hour, and in view of the staff's position I am agreeable to reducing the motion to a week.

8320 *Colloquy*

The Chairman: To a week?

—6,852—

Mr. Browning: Yes. I have no desire whatever to delay the proceedings.

The Chairman: If you get the week you want a further adjournment then?

Mr. Browning: Yes, I would, Mr. Chairman. Here is what I have in mind: If I could get a week's adjournment I would expect the first batch of testimony
8321 we put in to take about a week, that is all, the second week, and then the constructive thing to do at that point, in my opinion, would be to take a two-weeks' adjournment, and at the end of that two weeks to put in everything else.

The Chairman: Let us see what the "everything else" is. Your first batch is the incidental businesses?

Mr. Browning: The first batch is what I call tie-in testimony.

The Chairman: Will you repeat that? What is that sort of thing?

8322 Mr. Browning: I said we want to put in evidence regarding the tie-ins of certain of these systems.

The Chairman: In an attempt to meet (A) and (C).

Mr. Browning: In an attempt to meet 2(a)(29).

Commissioner Eicher: Of course (A) and (C) are largely embodied in the 2(a)(29).

Mr. Browning: Yes, Mr. Commissioner.

The Chairman: You want that tie-in testimony, and then you have got testimony relating to the inci-

—6,853—

dental businesses?

Mr. Browning: That is right. Those three I mentioned.

The Chairman: That you said would take about an hour?

Mr. Browning: I said the three incidental businesses would take me about an hour.

The Chairman: Yes, I said that would take you about an hour.

Mr. Browning: Yes. Then remember we have got this testimony regarding North American itself on the 8324
constitutional issue. I expect that stuff to take about a week. By the way, in making my estimates I am including cross examination, as far as I can guess it.

The Chairman: At this juncture, if you get a week's adjournment why can not you go without cessation from there? What do you need to get ready for after that week's adjournment?

Mr. Browning: Above all, what we need to get ready for is odds and ends which, you remember, was my third division. I would rather have the two weeks.

The Chairman: And then your motion to strike? 8325

Mr. Browning: Yes.

The Chairman: You mean you want to particularize the motion as to certain items? Is that what you mean?

Mr. Browning: I imagine so, yes. It is days and days of work.

The Chairman: This may not be an advisable suggestion, but it occurs to me as a possibility: When the Commission comes to make its findings it will, of

8326 *Colloquy*

course, ignore irrelevant testimony. Why can not the record be closed with leave to you, in connection with requested findings, to make your motion at that time? In other words, why not we hold the record open? If the Commission comes in on your motion, and when the Commission considers it and hears counsel for the Commission, it will perhaps set it down for argument and perhaps not, perhaps pass on it and do what it thinks is right in regard to striking from the record.

8327 Why not hold the hearing record open for the trial examiner for that purpose?

Mr. Browning: For that particular motion?

The Chairman: Yes.

Mr. Browning: That would be a very constructive way to deal with it. Of course that is not the only odd and end. Let me give you another example. One of the things which we have been thinking about but never had time to reach a conclusion on is how we can get in this record, for the constitutional issue, enough in regard to securities and their rights and

8328 not too much, and the easy thing for me to do would be to do what our learned opponents did, to dump in the Atlantic Ocean, all the indentures and debentures, but I do not want to do it. For instance, we may want to frame a stipulation with the staff by which there might be leave to refer, but all of these things take a little time, and I call them odds and ends.

My purpose in suggesting the two weeks' adjournment there in the middle was to give us a chance to

take a deep breath and to look over the whole picture, to see where we were. In other words, when you close a record in a proceeding like this, not only ourselves but the staff, we want to really think for a little while about what is left to get in.

Commissioner Healy: How far are you planning to go with the constitutional issues, if I may ask? Are you going to put in any evidence as to any companies outside of the North American system? I mean, what are you going to offer in evidence? 8330

Mr. Browning: We are going to offer, I think, very little, very brief. For example, what I have in mind is some evidence on size.

Commissioner Healy: Size of what?

Mr. Browning: Well, the issue under this Act is the size of an integrated public utility system.

Commissioner Healy: We are talking of the constitutional issues now.

Mr. Browning: I beg your pardon. Yes. We probably want to give you some facts. Since one of the bases urged for the constitutionality of the statute 8331 would be that holding companies have become too big, we may want to offer a few facts on the subject of what is big. Again, however, in no bulk. In fact in discussing the remaining evidence, no single part of it is bulky. We are, frankly, in a closing-up period here.

Commissioner Healy: If you get the two weeks' adjournment could you then start and go right through

without cessation?

8332 *Colloquy*

Mr. Browning: Mr. Commissioner, that goes to human nature. I have generally found it advantageous, in a case that we were forced to prepare as we went along, to keep my eye on what was going in next. Your question is going really to: Can we prepare all of it in two weeks. I think it would be better, from an operating standpoint, if I did not try to do that.

Commissioner Healy: Well, if we grant a week's adjournment do you think you could close the record
8333 in five weeks, counting next week as one?

Mr. Browning: Yes, sir, assuming I am right on my guess on cross-examination. You realize that that is a little difficult to guess, but I am basing my judgment on the cross-examination to date.

Commissioner Healy: Of course the Commission may indicate inside the next two or three weeks how far we think people ought to be allowed to go in putting in evidence on constitutional issues when the evidence relates more particularly to holding companies in general and then takes evidence outside the particu-
8334 lar system that is involved in the pending case.

Mr. Browning: I realize you have got a rather tough set of questions on these so-called tentative conclusion companies. We have nothing bulky on any of this. In other words, I really think, in the evidence that is left, it is rather foolish to argue about it, because it is going to take a lot less time to put it in

subject to a motion to strike than it is to argue about it. For example, the material we are going to put in on

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other companies is so brief it would be much easier to put it in subject to a motion to strike. I mentioned that other example of the testimony on the three companies.

Commissioner Eicher: On this problem of constitutional evidence, Mr. Dubois just whispered in my ear the query as to whether or not the court might recognize an arrangement like this, that counsel stipulate, before the first closing of the record, that in the event of an appeal the record may be reopened to present such additional constitutional evidence as either party may desire before prosecuting the appeal.

8336

Mr. Browning: Well, that is certainly one way to handle it. Again, however, my views are colored by the fact that we are so close to the end. I take it that even after this record is closed nobody is going to object to reopening it to the extent of putting in a very limited set of facts. I mean, for example, as you all know, the sale of the Nebraska Natural Gas Company, if the record had been closed and if we wanted to reopen it simply to put evidence in on that company, I do not think anybody would object. In other words, I think the suggestion which has been made would be much more apropos in the case of a record which had not progressed as far as ours had.

8337

The Chairman: Anything further?

Mr. Binford: May it please the Commission, our argument this morning was on two things: first, an

8338 *Colloquy*

objection to the granting of a motion for recess, and, secondly, there was an objection to the introduction of any further testimony on the part of the respondents on the ground it affirmatively appeared, and had now been admitted, that on the record every possible integrated utility property or activity has already been covered by detailed engineering testimony and evidence in this case, and covered also in respect to business and financial operations, and otherwise, as well
8339 as every business that is operated in any way that can be considered as in connection with any possible integrated system. That necessarily leaves anything else, it would seem, as a mere matter, presumptive at least, of greater detail and surplusage. Of course they have the right to present their case, but that would appear to be the case unless there is a clear offer of proof which up to that time had not been made on the record, an offer of just what additional evidence they propose to produce. We finished all the operating properties and all the business that under any geo-
8340 graphic or other conception could be considered as possibly incidental to the operations of any of these several systems. That is all completed in this possibly 7,000 pages of evidence.

The Chairman: What about these properties to which reference has been made?

Mr. Binford: Those properties under U-5-B and U-5-S of the North American Company in evidence in this case. We have some information concerning

those properties there which shows other non-utilities, other direct subsidiaries of North American Company, which are not in the geographic field of operation, that is the activities are not, of any of the several utility properties operated within the system. We also have the other side of the picture, namely, the detailed description of the operation of these utilities, so we can see from both sides that there is no possibility of interlocking there, and I do not think there has been any contention made that there was. So I think on 8342
the very face of the record a detailed description of those non-utility properties, which are wholly outside the system except for common stock ownership for a common period, that any evidence on the activities of any of these operating systems is a waste of time.

The Chairman: Counsel says it will not take him more than an hour to put that evidence in.

Mr. Binford: I understood it was to take more than a week or so.

The Chairman: Suppose that is an hour, you have got two other categories of evidence, as I understand. 8343

Mr. Browning: No, Mr. Chairman. That hour you are talking was part of my estimate of a week, which also included this general testimony I want to offer about North American Company.

Commissioner Eicher: You mean the constitutional question?

Mr. Browning: That is right.

—6,860—

The Chairman: You say there are three categories?

Mr. Browning: That is right.

8344 *Colloquy*

The Chairman: One is the non-utility properties and these other things?

Mr. Browning: No, that and North American Company in general.

The Chairman: See if I follow you. You have got certain incidental properties as to which you want to introduce evidence, is that correct?

Mr. Browning: Yes.

The Chairman: That is one category?

8345 Mr. Browning: Yes.

The Chairman: Just let me separate them, if I can.

Mr. Browning: All right. Then you should put down as your second category the testimony about the North American Company itself.

The Chairman: That is the constitutional element?

Mr. Browning: Yes.

The Chairman: Then you have got mopping-up testimony?

Mr. Browning: Odds and ends.

The Chairman: Odds and ends?

8346 Mr. Browning: Yes. Wait a minute. The fourth on your list is what I call the tie-in testimony.

The Chairman: What does that mean?

Mr. Browning: We want to offer evidence with regard to the position of certain of these properties.

—6,861—

The Chairman: For instance, Cleveland and St. Louis?

Mr. Browning: No, no, the Union with other systems, with other properties.

The Chairman: That is not in as yet?

Mr. Browning: No, sir.

The Chairman: You have not, therefore, completed your Union case?

Mr. Browning: Well, we have completed Union in the sense that we have described everything that is Union, and I have got no intention of going back to that at all.

Mr. Binford: I disagree as to that being in the record. There is testimony in relation to each company, as to its relation with each other. 8348

Mr. Browning: We are not going to duplicate that.

Commissioner Healy: Whose testimony is that? Yours or his?

Mr. Binford: That is his testimony.

Mr. Browning: Mine. We are not going to duplicate that.

The Chairman: Supposing we set to one side the so-called constitutional question. Can you find out how long it is going to take you? 8349

Mr. Browning: The first two items on your list I figure a week, including cross-examination.

The Chairman: Let us put the constitutional question one side for a minute. Maybe we will not let you put it in, because we can not pass on constitutionality,

we don't know, we have not made up our minds on that.

Mr. Browning: Yes.

8350 *Colloquy*

The Chairman: Take your incidental properties, you say that will take you an hour?

Mr. Browning: Yes.

The Chairman: Now your tie-in evidence, how long is that going to take?

Mr. Browning: I figure a week, including the cross.

The Chairman: And your odds and ends, if you leave out your motion to strike, how long will that

8351 take you?

Mr. Browning: Again I figure a week, but if we finish before that—that is at the end, if we finish before that then we are finished.

The Chairman: You need not follow this suggestion, but it occurred to me one way to save time on the so-called constitutional evidence would be for you to advise the Commission in writing of the general character of the testimony, with some particularity, and let the Commission determine whether it will

8352 allow it to go in.

Mr. Browning: Mr. Chairman, we are going to spend some time in arguing about it.

The Chairman: Is it going to take a week to put it in?

Mr. Browning: At a maximum, including the cross.

The Chairman: I think you are sanguine, because I can conceive your putting in certain testimony on

constitutionality, if the Commission allowed it to go in

and allowed the Commission to rebut, Commission's counsel, it would take four weeks.

Mr. Binford: Furthermore there may be some objections on whether or not it ought not to go in orginally, as to particular items.

Mr. Browning: I can say this: The evidence which I have in mind is not going to take long enough to justify talking about a stipulation. If anybody objects to it the simplest, most expeditious way of dealing with it is to take it subject to the motion to 8354
strike. I am just being practical now.

The Chairman: Supposing we take this under advisement and let you know about the adjournment?

Mr. Browning: Sir?

The Chairman: We will advise about the adjournment.

Mr. Binford: The hearing then stands adjourned?

The Chairman: I think we can advise him within an hour.

Mr. Browning: I have a practical aspect here, Mr. Chairman. 8355

(Discussion off the record.)

The Chairman: If you will leave us for a little while we may be able to decide in 10 minutes.

(Whereupon counsel retired from the hearing room and after an interim of three minutes the following proceedings were had:)

The Chairman: The Commission will grant an adjournment of a week in the hope that you will not

8356 *Colloquy*

need any further adjournment when you resume, and before you offer your so-called constitutional evidence the Commission would like to have a statement of an offer of what you intend to prove in that connection, before you get to that.

Mr. Binford: This being Friday——

The Chairman: Beg pardon?

Mr. Binford: The week will be regarded as a week from Monday?

8357 The Chairman: Yes, a week from Monday. Well, sir, it is more than a week, it is 10 days. At any rate, you will resume on the 7th of April.

(Whereupon, at the hour of 2:55 o'clock p. m. an adjournment was taken until Monday, April 7, 1941, at 10 o'clock a. m.)

—6,865—

8358

BEFORE THE 8359

Securities and Exchange Commission

DOCKET NO. 59-10

IN THE MATTER

of

THE NORTH AMERICAN COMPANY, *et al.* 8360

Hearing Room, Second Floor,
1757 "K" Street, N. W.,
Washington, D. C.,
Monday, April 7, 1941.

Met, pursuant to adjournment, at 10:00 o'clock, a.m.

Before: WILLIAM W. SWIFT, *Trial Examiner.* 8361

Appearances:

S. PEARCE BROWNING, JR., and

CHARLES S. HAMILTON, JR., of Sullivan & Cromwell, 48 Wall Street, New York City, New York, appearing for The North American Company, et al., Respondents.

RALPH C. BINFORD, appearing for the Securities and Exchange Commission.

8362 *Colloquy*

PROCEEDINGS

The Examiner: The hearing will come to order.

Mr. Browning: As the Examiner will recall, on March 28th the Commission, after argument, granted an adjournment until today "with the hope" that we would not need any further adjournment after resuming and that before offering so-called "constitutional evidence" the Commission would like to have a settle-
8363 ment of an offer of what we would intend to prove in that connection.

In view of the Commission's position and its desire for expediting the hearings, we have exerted every effort during the past week to that end, and I am glad to be able to say that, assuming the reservation which I will mention shortly, we expect to finish with our testimony this week. We make this estimate of not more than a week with some allowance for cross examination, although, as the Examiner knows, this is very difficult, if not impossible, to estimate. In
8364 order to achieve such expedition, we have reduced a considerable amount of testimony to exhibit form, as will appear in the course of this hearing.

As regards the Commission's request on so-called "constitutional evidence": A great deal of the evidence which we have already submitted bears not only on questions of statutory construction but also on constitutionality, and this will be true of the evidence which we will offer this week, so that I see no useful

purpose to be served in attempting any detailed description of it. However, as to presentation of further evidence dealing strictly with constitutional issues along the lines discussed by counsel in the arguments on Engineers Public Service Company,—and that is really what I understood the Commissioners had in mind,—we will be glad to adopt the suggestion made by the Commission and close these hearings, with the reservation of a right to reopen the hearings and offer such evidence later, and we will propose such a stipu- 8366
lation at the close of the hearings.

Another point which I should mention is that we have not yet had time to prepare our motion to strike the Commission's exhibits, but such motion can either be submitted later, as I believe one of the Commissioners suggested, or the situation handled by stipulation. We expect to make a practical suggestion along these lines later in the week.

Of course, there are other points, chiefly odds and ends, which may occur to the staff or to ourselves before the end of the week, but we can take those up 8367
in due course.

Mr. Lindseth.

Whereupon, ELMER L. LINDSETH, a witness produced on behalf of the Respondents, having been previously sworn, was examined and testified as follows:

—6,868—

Direct Examination by Mr. Browning:

Mr. Browning: Will you please mark this series of statistical tables and charts, consisting of ten sheets

and bound together, as Respondents' Exhibit No. 124 for Identification.

(The document referred to was marked for identification as Respondents' Exhibit No. 124.)

By Mr. Browning:

Q. Mr. Lindseth, when you testified previously in these hearings, you were at that time Assistant to the President
8369 of The Cleveland Electric Illuminating Company? A. That is right.

Q. Have you since left the employ of that company? A. Yes, on September 15, 1940.

Q. Will you give us your present occupation? A. On that date I joined the staff of The North American Company as an engineer, and have been engaged continuously since then as a technical assistant on their staff.

Q. Referring to Respondents' Exhibit No. 124 for Identification, have all these tables and charts been compiled under your direction? A. They have.

8370 Q. Now, I would like to take these charts and tables one by one, and have you tell us the source from which you took the information. Taking Sheet "A", first,—will you please state the sources of these statistics? A. These are,

in all cases, from the records of the companies.

Q. And Sheet "B"? A. In the case of the North American Company, these are data from Sheet "A", and taken from the records of the company; in the case of the State data to which the corresponding figure for the North American Company are compared, these are, in all cases, from

published sources, the area and population being from the U. S. Census, 1930; the Number of Electric Customers, Total k. w. h. Sold, and Total Electric Operating Revenue, Columns 3, 5, and 6, are from published data of the Edison Electric Institute,—the other three columns, 4, 7, and 8, are from published data of the Federal Power Commission.

Q. Turning now to Sheet "C", tell us from what sources that information was obtained? A. Again the data on the North American Company came from Sheet "A" and were taken from the records of the company. The other data are 8372 from published sources, in most cases those of the Federal Power Commission reports filed by the several companies and known as their Form 1.

In the case of the Niagara Hudson Power Corporation, these data are taken from Moody's Public Utility Manual, 1940.

In the case of U. G. I., these are from the tentative re-

port of the S. E. C. under date of January 22, 1941.

In the case of American Waterworks & Electric Company, Incorporated, these data were taken from the American Waterworks & Electric Company, Incorporated, Statistical Handbook, 1940. 8373

Data on New England Power Association are also taken from Moody's Public Utility Manual.

Q. Turning to Sheet "D", what is the source there? A. These data, in all cases, represent, only graphically, those data reported on Sheet "C".

Q. Turning to Sheet "E", what is the situation there? A. These data, in all cases, are those reported by the F. P. C.

8374 *Elmer L. Lindseth—By Respondents—Direct*

in their State Rate Reports, and represent the latest published information from that source, January 1, 1940.

Q. Turning to Sheet "F", what is the situation there? A. Sheet "F" has, as its source in the case of the North American Company companies, the records of those companies; the State averages and the U. S. average are from the published reports of the F. P. C., known as Statistics of Electric Utilities in the United States, 1938. Companies other than those included in State averages, have had their
8375 data taken from the reports of those companies to the Federal Power Commission, known as Form 1.

Q. That last category you were referring to are the companies listed under the heading "Other Electric Systems"? A. Yes, sir; that is correct. —6,871—

Q. What were the sources for Sheet "G"? A. The data here on the North American Company are in all cases, from the records of the companies and the corresponding U. S. averages are taken from the Edison Electric Institute Statistical Bulletin No. 7.

Q. Where did you get the basic figures for the line marked
8376 "Combined Systems"? A. The Combined Systems sources are weighted averages of the three reported systems of the North American Company.

Q. Turning now to Sheet "H", what are the sources of these? A. Data for the North American Company are taken from the records of the companies which, however, check with the sources from which data on other systems was taken, namely,—"Financial Statistics for Electric and Gas Subsidiaries of Registered Public Utility Holding Companies for the Years 1938-1939", Securities and Exchange Commission.

8377

Q. Referring to Sheet "I", you have testified by footnotes to the source, or sources, of your data, have you not? A. That is correct, with the exception that the data for the North American Company, which are not indicated as to sources, are from the records of the company, with the exception of the last column, the data for which have been taken from the S. E. C. Notice of Hearing dated March 7, 1940.

8378

Q. I notice that several of the footnotes apparently do not indicate their source. Could you mention the sources in those cases? A. These would include Footnote (i), the source for which is Moody's Industrial Manual, 1940; (m), the same source; (q), same source; (u), same source; (K), same source; and (L),——

Q. The same source? A. The same source.

The data in the last column are so-called "crow-flight" distances, point-to-point distances taken from the map, as distinguished from the data from the first two lines which was reported by the S. E. C. and which was indicated to be the nearest distance by rail.

8379

Q. In certain figures there, referring to the automobile industry, did you obtain any information from a special source? A. Yes. In the case of the automobile industry, other than the Ford Motor Company, data are from a report of the S. E. C. entitled "Survey of American Listed Corporations, Supplement No. 4, August, 1940." These data are for those automobile companies registered with the Securities and Exchange Commission under the Securities and Exchange Act of 1934, which excluded the Ford Motor Com-

8380 *Elmer L. Lindseth—By Respondents—Direct*

pany. Data for the latter are from the filed reports in Massachusetts, and are taken from the Wall Street Journal.

—6,873—

Mr. Browning: I offer the exhibit in evidence as Respondents' Exhibit No. 124.

Mr. Binford: I object to the reception in evidence of the Sheets "C", through and inclusive of Sheet "I", upon the grounds that the data relative to properties and operations not comprised within the North American System are wholly irrelevant and immaterial in this proceeding.

8381

Mr. Browning: Has counsel stated his objections?

Mr. Binford: Yes.

Mr. Browning: We contend that it is material and purely relevant and admissible, Mr. Examiner, among other reasons as bearing upon the issue of statutory construction. The phrase used in both Section 2A29 and 11B1, in the so-called "size test", is "not so large . . . as to impair . . ."—of the Commission is there, by the terms of the law, itself, required to exercise judgment as to size.

8382

I am unable to understand counsel's position that that judgment should be exercised in a vacuum. It is as if you would ask a Fiji Islander, let's say, "What size an apartment house elevator should be." Obviously, he would have to know something about elevators and something about apartment houses.

The Commission and the courts which are going to pass upon the issue of size should have in the record statistics regarding sizes of other electric systems and

other enterprises. It is either that, or counsel is making the contention that somebody is going to

—6,874—

make up his find in a vacuum as to what the size of the unit is. In fact, I must state that I am unable to understand the contention that in considering size, nothing else, no other factors are to be considered whatever.

We submit that the exhibit is clearly admissible.

Mr. Binford: Mr. Examiner, my position is this: 8384
Here are a number of selected enterprises of various kinds which are named in this exhibit and their magnitude is the only thing shown. If we followed Mr. Browning's line of thought, it seems to me that this hearing would be opened to a full investigation of the efficiency of the American Telephone and Telegraph Company and other large companies, and whether the issue should include the matter of their efficiency in relation to the efficiency of other companies and we don't know whether that efficiency is because of their great size or in spite of their great 8385
size, and in order to properly bring in these comparisons and receive any real assistance from them, it would be necessary to go into an analysis of the operations of each one of the systems and show wherein their size retarded the efficiency of the operation or whereby it benefited the efficiency of the operation. The mere introduction into evidence, the mere fact that other companies are operating in various fields not covered in this proceeding at all, which

8386 *Colloquy*

have vast accumulations of capital or which have vast operating enterprises, does not prove their effi-

—6,875—

ciency or inefficiency.

We must, it seems to me, necessarily decide the issue of efficiency with relation to size from what has been shown in this case, plus what the Commission may take judicial cognizance of as to the efficiency of operation of the North American Com-

8387 pany and all conceivable relationships brought out by the evidence of its operations and its magnitude. Collateral inquiry into any other large enterprise or enterprises seems to be wholly beyond the possible physical limitation of an inquiry of this sort.

Mr. Browning: It seems to me, Mr. Examiner, that that argument is fundamentally addressed to the weight which counsel claims should be given to the exhibit, rather than to its relevancy.

The Examiner: Off the record.

(Discussion off the record.)

8388

The Examiner: Are you going to interrogate the witness first about this proposed exhibit, Mr. Browning?

Mr. Browning: I have a very few questions on certain of the sheets, nothing else.

The Examiner: Well, suppose you ask him those questions and I will take this under advisement as to the reception of this document in evidence.

Mr. Binford: With reference to the sheets, may the record show that I would like to object to ques-

tions directed to non-North American properties on the same grounds, namely, immateriality and irrele-

—6,876—

vancy, as I previously objected to the exhibit itself.

The Examiner: Your objection now goes to Sheets "C" through "I", inclusive. That is what I understood to be objected to.

Mr. Binford: Yes, sir.

The Examiner: All right. 8390

By Mr. Browning:

Q. Turning to Sheet "A", Mr. Lindseth, in Columns 1, 2, and 3, you have shown Electric Service Area, Number of Communities Served, and Population Served Electrically. Am I correct in understanding that the area and populations served are the total area and population of the service areas of the respective companies with no deductions because of the fact that any competing electric utility may be situated therein? A. Yes, that is correct. These are respectively, the service area and population served electrically, which are 8391 used in the conventional description of service areas.

Q. In other words, to make it concrete, you have included the population of Cleveland, in its entirety, despite the fact that there is also a municipal power plant there? A. Yes, that is correct; we serve a portion of the City of Cleveland.

Q. That would also be true of the City of St. Louis, and the Laclede Company? A. That, too, is correct.

—6,877—

Q. Not with respect to the number of communities that you have excluded, communities in the service area where

you render no service? A. That is a correct understanding.

Q. But that you have included communities where you render part of the service? A. Yes.

Q. Turning to Sheet "E", will you please refer to the second group of columns which is headed "50,000 and More", and specifically to the percentages given for the Wisconsin-Michigan System. I note that the percentages given are 130, 132, and 124. Is there any special circumstance involved there? A. Yes, there is. This is a unique situation in the
8393 basis for comparison in that the only city in Wisconsin with a population of fifty thousand or above, not served by properties of The North American Company, is the City of Madison.

This is a unique city in a number of respects. The company is also served by a holding company subsidiary, Madison Gas and Electric Company, and the community is one of high customer density and of unusually high purchasing power growing out of the circumstances that this is a State capitol and is the seat of a very large State university and the community is one of only modest size, fifty-seven thou-
8394 sand population. Because of this high purchasing power

growing out of its unique character, the average use per consumer is high and this, coupled with the high customer density and high purchasing power, makes it as a basis for comparison with the entire seven hundred thousand population served by the three North American Systems, rather an unfair comparison.

The character of the electric business done in Madison is primarily one of residential and commercial business, with

a very small amount of industrial business, but twelve and one-tenths per cent. of the kilowatt-hours sold, as of 1939, were classed as industrial. This gives the community a degree of stability which is quite different from that in an industrial community, making for a certainty of income that is favorable to the company and the consumers.

Further than this, the company serving Madison, electrically, likewise serves it with gas resulting in numerous economies of joint operation.

8396

Q. Is the company which serves Madison a subsidiary of a registered holding company? A. Yes, it is that.

Q. Tell us which company that is. A. United Light and Power Company.

Q. Referring to the percentages shown for Cleveland in the same column, is there any characteristic of the Cleveland

—6,879—

rate which affects those percentages? A. Yes, there is. It will be noted that the three points at which bills are prepared are at twenty-five kilowatt-hours per month use, one hundred kilowatt-hours per month use, and two hundred and fifty kilowatt-hours per month use. These have been chosen by the Federal Power Commission as a basis of comparison on somewhat of an arbitrary basis and are not truly representative of the picture of representative rates.

8397

It is a characteristic of the Cleveland Company that its rate to small users are low, witness the column headed "Twenty-five Kilowatt-Hours Per Month" where the average rate of the Cleveland System is but eighty-eight per-cent. of the State average of other companies for the same use.

8398 *Elmer L. Lindseth—By Respondents—Direct*

At one hundred kilowatt-hours per month, the percentage relationship of the Cleveland and state-wide average is one hundred and twelve per cent. Now, based on the so-called distribution of customers by use, in the metropolitan Cleveland area, fifty per cent. of the customers use fifty-one kilowatt-hours per month or less, based on the most recent study of that characteristic, October, 1939, that is,—one-half of the customers use fifty kilowatt-hours per month or less. In the same city it was determined that seventy-five per cent. of the
8399 customers use seventy-six kilowatt-hours per month or less. That is three-quarters of all residential consumers use

—6,880—

seventy-six kilowatt-hours per month or less. At one hundred kilowatt-hours, and above, but eleven per cent. of the customers are affected. That is, then, as a basis for weighted average comparison, the arbitrary point at which the Federal Power Commission compares these bills,—namely, twenty-five, one hundred, and two hundred and fifty, are likely to give a rather warped prospective, giving an amount of emphasis to large users greater than is deserved.

8400 For example, at two hundred and fifty kilowatt-hours per month, and above, but one per cent. of the customers of the Cleveland System were affected, as of the date of that study.

Referring again to the twenty-five killowatt-hours per month, and smaller bills, it is a characteristic of Cleveland rates that a fifteen kilowatt hours a month, that is, a very small user, its bill of sixty cents is extraordinarily low and by that, we may use as a comparison, all of the cities in the United States with a population of two hundred and fifty thousand or above, that is, large cities.

 8401

As of January 1, 1940, the date of this comparison, no city in the United States in this population class, two hundred and fifty thousand and above, had rates lower than these of the Cleveland Company This includes both publicly owned and privately owned utilities. None had a bill lower than the Cleveland Company at fifteen kilowatt-hours per month.

—6,881—

Q. Now, referring to the very last line in the column group which consists of the figure one hundred and one repeated three times, am I correct in understanding that that same figure is affected by the Madison situation which you mentioned? A. Yes, that is correct. 8402

Mr. Browning: Off the record.

(Discussion off the record.)

Mr. Browning: Referring to Sheet "F", I might state that the reason why the companies shown under the heading "Other Electric Systems" were selected is that they are the leading systems which are not subsidiaries of registered holding companies. 8403

I should add to that we excluded Detroit Edison Company and Pacific Gas and Electric Company because their status has been in doubt.

Mr. Examiner, that is all I have to ask this witness at this time but I will recall him tomorrow or the next day when one or two additional exhibits are ready, which we were unable to have ready by this morning.

8404 *Colloquy*

The Examiner: Very well, Mr. Browning.

Mr. Binford: Mr. Examiner, I would, at this time, like to withdraw my objection to Sheets "E", "G", and "H", of the offered exhibit, Number 124, but insist upon it as to the remaining Sheets "C", "D", "F", and "I", severally, since the sheets I first mentioned are not a direct bringing in of individual non-

—6,882—

8405 North American Companies and the same reasons do not exist for the exclusion of those sheets as does exist in the case of the others.

The Presiding Officer: With reference to Sheet "E", let the record show that interlineation of the words "Percentages of State Averages—Excluding the North American Company Properties" has been allowed.

Mr. Browning: Could the record aiso show that Sheets "A", "B", "E", "G", and "H", are admitted in evidence; the balance, as I understand it being

8406 under consideration by the Examiner?

Examiner: Yes, that is the status. Sheets "A", "B", "E", "G", and "H", are now admitted in evidence and I will reserve a ruling with respect to Sheets "C", "D", "F", and "I".

(Respondents' Exhibit 124, Sheets "A", "B", "E", "G", "H" received in evidence.)

Mr. Hamilton: I will call Mr. Freeman.

Herbert C. Freeman—By Respondents—Direct 8407

Whereupon, HERBERT C. FREEMAN, a witness produced on behalf of the Respondents, having first been duly sworn, was examined and testified as follows:

Direct Examination by Mr. Hamilton:

—6,883—

Q. Will you give the reporter your name and address, Mr. Freeman? A. Herbert C. Freeman, 60 Broadway, New York City.

Q. Are you now a Vice President of The North American 8408
Company? A. Yes, sir.

Q. And for how long a period have you served in that capacity? A. Since July, 1927.

Q. Do you now hold certain directorships in The North American Company System? A. I am Director of The North American Company, The North American Utilities Securities Corporation, West Kentucky Coal Company and its three small subsidiaries,—Sixty Broadway Building Corporation, The Cleveland Electric Illuminating Company, North American Light and Power Company, and Wisconsin Electric Power Company.

8409

I am also a Director of Pacific Gas and Electric Company and of the Associated Music Publishers, Inc., in which North American Company has an interest.

Q. And have you, from time to time, during the period of your officership with The North American Company, held certain other directorships in The North American Company System? A. Yes, I have.

—6,884—

Q. Now, will you state your business experience, Mr. Freeman? A. Shall I go back to 1898?

8410 *Herbert C. Freeman—By Respondents—Direct*

In 1898 I became a very junior clerk in a firm of East India Merchants in London. I then had an opportunity to go into the George A. Touche and Company, chartered accountants in London, and I was there for three years and was most of the time secretary to Mr. George Touche.

I then came to this country in 1902 and joined the firm of Touche, Niven and Co., public accountants. I passed my examination for Certified Public Accountant in the State of New York in the spring of 1904 and later on, I became a
8411 partner of Touche, Niven and Co. and remained there until the end of 1920 and at the beginning of 1921, I left them to become Vice President and General Manager of one of their clients, The National Cloak and Suit Company, which was then the third largest mail order business in the United States, and I later became President of that company.

I remained President until it merged with another company in April, 1927, when I became free and Mr. Dame, who was then President of North American Company and whom I met earlier and with whom I worked earlier in my work as a public accountant, hearing I was free, asked me to join
8412 The North American Company, which I did, in July.

Q. And since that time, you have been continuously engaged in the affairs of The North American Company? A. Yes, sir.

—6,885—

Q. When was The North American Company incorporated? A. It was incorporated June 14, 1890.

Q. And did it, at or about the time of its incorporation, take over the assets of another company? A. At that time it acquired the assets of the Oregon and Trans-Continental

Company, a corporation which consisted chiefly of railroad securities and some securities of the predecessor of the present Wisconsin Electric Power Company. It also included two thousand shares of capital stock of Edison General Electric Company, the predecessor of the present General Electric Company.

Q. And under the laws of what State was The North American Company incorporated? A. Under the laws of the State of New Jersey.

Q. And its capitalization at the time of incorporation 8414
consisted of what? A. Capital stock of one class, in the amount of $40,000,000.00.

Q. And how does that compare with its present capitalization? A. At December 31, 1940, the total capitalization was $265,309,195.00, including earned surplus of $44,132,991.00; and paid in surplus of $312,994.00; in addition, it had

—6,886—

capital surplus which has now been transferred to reserve for contingencies amounting to $32,801,970.00. That is not included in the figure of $265,000,000.00.

Q. Who was the first President of The North American 8415
Company? A. The first President of The North American Company was Mr. Henry Villard, a former Civil War Correspondent and a leading financier in the latter part of the 19th Century. Mr. Villard was one of those associated with Edison in the initial development of electricity in the early 1880's, and he served as the first President of Edison General Electric Company, the predecessor of the present General Electric Company.

Q. For what purpose was The North American Company organized? A. For the purpose of taking over the assets

8416 *Herbert C. Freeman—By Respondents—Direct*

of Oregon Trans-Continental under a charter which gave it broader powers than the charter of that company.

Q. And as originally constituted, was it organized for the purpose of operation of railroad enterprises?

Mr. Binford: I object to the question on the ground that it has not been shown that the witness had any personal knowledge of any purposes for which the corporation was organized, other than such as he
8417 may have obtained from the records of the corporation, namely, from the charter or the Articles of In-

corporation; and as to such material, the Charter or Certificate of Incorporation is the best evidence, itself. I might also point out that such copy is in evidence in this case.

Mr. Hamilton: May I make a new observation, Mr. Examiner?

As counsel knows, the Certificate of Incorporation,
8418 generally speaking, is a very broad instrument and does not necessarily state specifically the purposes or, exclusively, the purpose for which any corporation is organized.

Now, I don't think we could produce anyone at this stage who could testify to the organization of The North American Company fifty-one years ago.

I would like to ask the witness a question or two in order to develop what this company's business was to be.

8419

By Mr. Hamilton:

Q. You have testified, Mr. Freeman, that continuously, since 1937, you have been a Vice President of North American? A. Yes.

Q. And as such, you have had access to the books and records of The North American? A. Yes.

Q. And included among the books and records, are there, or are there not, annual reports and other documents indicating the original purpose for which the company was formed?

8420

—6,888—

A. Yes.

Mr. Hamilton: I submit the witness is qualified to answer the question.

The Examiner: The objection is overruled.

Mr. Binford: Exception, please.

The Witness: The original intent was to operate in the field of railroad finance and promotion of electric light and power enterprises.

By Mr. Hamilton:

8421

Q. Now, I believe you have testified that at the time of the organization of North American Company there were included among its assets, certain railroad securities. What disposition was made of those railroad securities? A. They were entirely sold during the early years of the company's history, that is, between 1890 and 1895.

Q. Now, at what stage of the development of the electric industry did the organization of North American occur? A. It was within eleven years of the invention by Edison of the

generation and transmission of electricity for the purpose of incandescent lamps and it was within eight years of the building of the first power station.

Q. That is, the first central generating station? A. For commercial generation, yes.

—6,889—

By Mr. Hamilton:

Q. You spoke of certain securities held by The North
8423 American Company in properties now represented by Wisconsin Electric Power Company. When did the first consolidation of those properties occur? A. In 1890 those properties were consolidated, and that became the first company which generated power, electric power for street railway and general commercial purposes.

Q. Did The North American Company at an early stage of its history enter into a contract with Thomas Edison? A. It had a contract with Thomas Edison under which it became entitled to the use of his inventions for the application of electricity to street railway purposes, and under that
8424 contract it undertook to finance the cost of his experiments during that 5-year period.

Q. And, if you know, at what time was that contract executed? A. It was dated October 1, 1890.

Mr. Hamilton: Please mark this bound volume, consisting of 68 numbered pages, for identification as Respondents Exhibit No. 125.

(Whereupon the document referred to was marked Respondents' Exhibit 125 for identification.)

 8425

The Witness: May I add this to my reply to one of the recent questions: The contract with Edison gave The North American Company the right to the use

—6,890—

of Edison's patents with respect to railways of all descriptions—I think I may have said street railways —and to other important developments in the electrical industry.

By Mr. Hamilton: 8426

Q. Now will you state, Mr. Freeman, what Respondents' Exhibit No. 125 for identification represents? A. It consists of schedules showing the securities issued by The North American Company, North American Edison Company, The Wisconsin Edison Company, Inc., Western Power Corporation; also of dividends paid by The North American Company; and analyses of investments held December 31, 1940 by The North American Company.

It also contains a schedule showing for each of the years from 1915 to 1935, inclusive, the largest debit balance of combined loan and advance accounts of operating subsidiaries 8427 which had debit balances for the greater number of months during the year, that is to say, advances to those companies by The North American Company, The Wisconsin Edison Company, Inc., and North American Edison Company, which were the three holding companies in the system.

Q. North American Edison, Western Power, and Wisconsin Edison were intermediate holding companies, were they not? A. Yes.

Q. And all three have since been dissolved? A. Yes.

—6,891—

8428 *Herbert C. Freeman—By Respondents—Direct*

Q. Has this exhibit been prepared under your direction? A. Yes.

Q. And have the facts set forth been taken from the records of The North American Company? A. Yes, they have.

Mr. Hamilton: I offer the exhibit in evidence as Respondents' Exhibit No. 125.

Mr. Binford: No objection.

The Examiner: It is so admitted in evidence.

8429

(Respondents' Exhibit 125 for identification was received in evidence.)

Mr. Hamilton: May we have a little recess at this time, Mr. Examiner?

The Examiner: Yes, we will have a short recess.

(Whereupon a short recess was taken.)

By Mr. Hamilton:

Q. You stated, Mr. Freeman, the present capitalization
8430 of The North American Company. How is that distributed as among classes of securities? A. It is a simple and well-balanced capital structure, consisting of three series of debentures, issued under one indenture, with variations in the terms of interest rates, maturity dates and redemption prices; two series of serial preferred stock, varying as to dividend rates and amounts to be received in the event of voluntary

—6,892—

liquidation; and one class of common stock.

Q. And what are the ratios of the various classes of securities to total capitalization? A. The debentures amount to

$70,000,000, of 26.4 per cent. of the total capitalization; the preferred stock amounts to $65,136,950, or 24.5 per cent. of total capitalization; and the common stock and surplus amount to $130,172,245, or 49.1 per cent.

Q. And during the entire history of the company, what is the lowest percentage represented at any time by common stock and surplus as compared with total capitalization? A. The common stock and surplus have never been less than 48.5 per cent. of total capitalization.

Q. Now in order to get a general idea of the development 8432
of this security structure, will you indicate, very briefly, the general periods to which issuance of securities fall? A. From 1890 to 1921, there was one class of capital stock outstanding; from 1921 to 1939, there was one class of preferred stock and one class of common stock outstanding; and from 1939 to 1940, there have been two series of preferred stock and the common stock outstanding.

Q. And as to the funded debt of The North American Company, can the issuance of securities representing funded

debt be similarly classified as to periods? A. There has been 8433
funded debt, or similar securities outstanding in nineteen of the fifty-one years of the existence of the company; from 1895 to 1896, there were collateral promissory notes; from 1907 to 1912, there were 5-year collateral trust gold notes; from 1931 to 1939, there was one series of debentures; and from 1939 to 1940, there were three series of debentures.

Q. And what—— A. (Interposing) With the exception of the notes outstanding in 1895 and 1896, on which the interest rate was 6 per cent., The North American Company

has never issued funded debt on which the rate of interest exceeded 5 per cent., and the present debentures bear interest at the rates of 3.5 per cent., 3.75 per cent., and 4 per cent. per annum.

Q. Referring, again, to the issuance of securities, and particularly of stocks of The North American Company, have there been recognizable periods, based on the consideration received upon the issuance of such securities, which you could describe for us very briefly? A. Well broadly speaking, there
8435 have been seven periods, which fall apart rather naturally; from 1890 to 1905, there were, first, the issue of capital stock for the assets of Oregon and Transcontinental, and then some further stock issued for cash; from 1905 to 1907, there was the issue of further capital stock in exchange for

—6,893a—

investments in subsidiaries, and there were also $2,500,000 of 5 per cent. gold notes, which were retired between 1909 and 1912——

Q. (Interposing) Out of the proceeds of the issue of
8436 stock? A. Yes. From 1921 to 1923, common stock was issued for cash, and preferred stock was issued in connection with the acquisition of Cleveland Electric Illuminating Company; and from 1924 to 1933 was the period of stock dividends. During that period, from 1923 to 1934, dividends were paid on the common stock entirely in common stock.

Q. Common stock of The North American Company? A. Of The North American Company. And in 1934, a major part—no, not a major part, a substantial part of the dividends were paid, also in common stock of The North American Company.

 8437

Then, overlapping that period, from 1925 to 1929, and to a minor degree in 1930 and 1931, there were issues of common stock and preferred stock in the acquisition of companies which became subsidiaries.

In 1931 was the first issue of debentures to retire bank loans which had been incurred by The North American Company, chiefly to provide funds to enable the Union Company —that is the Union Electric Company of Missouri—to make its extensive expenditures in the Osage development.

—6,894— 8438

Q. That is the Osage hydro-electric plant, is it? A. Yes.

Then in 1939, North American Edison Company was dissolved, and the debentures of North American were refunded, and at that time the present $70,000,000 of debentures and the 5.75 per cent. series of preferred stock were issued.

Q. Why was North American Edison Company organized? A. It was organized in 1922 to serve as a vehicle for the financing of the acquisition of the Cleveland Electric Illuminating Company.

Q. And why was Wisconsin Edison Company organized? 8439
A. It was organized in 1914 by offering its securities to the stockholders of The North American Company, for the purpose of providing a vehicle for financing the development of the properties in Wisconsin.

It was dissolved in 1924, but prior to that time its properties had, for the most part, been transferred to North American Edison Company.

Q. Have all securities of North American Edison and Wisconsin Edison been retired? A. They have all been retired.

8440 *Herbert C. Freeman—By Respondents—Direct*

Q. Has The North American Company ever issued any stock which did not bear voting rights? A. No. All issues of capital stock by The North American Company have had

—6,895—

voting rights.

Q. And how about issuances of preferred stock, have they similarly had voting rights? A. Yes.

There was only one class of stock with full voting rights
8441 from 1890 to 1921; from 1921 to 1939, there was one class of preferred stock and one class of common stock, and the holders of preferred and common stock were entitled to one vote per share for all purposes; and from 1939 to 1940, there have been two series of serial preferred stock and one class of common stock. The holders of the serial preferred and of the common are entitled to one vote for each share for all purposes, except for the election of directors.

Q. Without going into detail, are there certain special rights with respect to the election of directors in the case of the serial preferred stock? A. Yes. The serial preferred
8442 stock has the right to elect one-fourth of the directors, under normal conditions, and it elects a majority if preferred dividends are in default for twelve quarterly periods.

Q. Now, have there been at various times in the company's history reclassification of its common stock? A. The common stock, which was originally $100 par value, was reclassified in 1921 into one share of preferred stock of the par value of $50 and one share of common stock of the par

—6,896—

value of $50.

 8443

In March, 1923, each share of common stock of $50 par value was split up into five shares of common stock of $10 par value; and then in April, 1927, each share of common stock was changed into one share of no par value stock, which, however, was continued at the value of $10 a share, and at that time the redemption price of the 6 per cent. preferred stock was increased from $52.50 a share to $55 a share.

Q. That applied to the preferred stock then outstanding, did it? A. Yes, sir. 8444

It was felt that this would give that stock a better standing in the market—

Q. And was there a further reclassification of stock in 1939? A. In 1939, the 6 per cent. preferred stock which was then outstanding was reclassified as a series of the serial preferred stock which was created at that time, and the common stock was changed from no par value to $10 par value.

Q. Now, during the entire period of its existence, has The North American Company ever defaulted in the payment of principal or interest on any evidence of indebtedness? A. No, sir. 8445

Q. Has it ever failed during the entire period of its existence to pay preferred stock dividends when due? A.

No, sir.

Q. In other words, there has never been an arrearage on any preferred stock of The North American Company, is that right? A. That is right.

Q. Has any public utility subsidiary of The North American Company ever defaulted on payment of principal or in-

8446 *Herbert C. Freeman—By Respondents—Direct*

terest on any indebtedness issued by it while a subsidiary of The North American Company? A. No, sir.

Q. Has any public utility subsidiary of The North American Company ever defaulted on payment of dividends on preferred stock which has been issued while that company was a subsidiary of The North American Company? A. Well, the Milwaukee Company, the predecessor to the present Wisconsin Electric Power Company, which was known as the Milwaukee Electric Railway & Light Company, issued
8447 $3,500,000 of preferred stock in 1896, and payment of dividends on that stock was not begun until 1900.

Q. That stock was non-cumulative at the time, was it? A. I believe it was. Dividends have been paid quarterly since then without interruption.

Then in the case of Illinois-Iowa Power Company, the dividends on its preferred stock, which had not been issued while it was a subsidiary of North American, went into arrears in 1932, and as of May 1, 1937 that preferred stock

8448 was recapitalized, and the recapitalization was the subject of litigation, and one of the remedies asked by the complainants was that dividends should not be paid on the preferred stock.

Q. I believe there is testimony in the record on that matter. A. Those are the only exceptions.

Q. So that with these two exceptions, your answer to my question would be in the negative, would it? A. Yes, sir.

Q. Now, are there certain non-utility subsidiaries of The North American Company having preferred stocks outstand-

ing on which there is a present arrearage? A. Non-utility subsidiaries, did you say?

Q. Having securities, preferred stocks outstanding with the public? A. There are outstanding 4,344 shares of West Kentucky Coal Company preferred stock, on which arrearages at December 31, 1940 amounted to $40.125 per share. Those are the shares outstanding with the public. The remainder of the stock is owned by The North American Company.

The preferred stock of North American Light & Power 8450
Company, of which 109,255 shares are held by holders other than The North American Company, had arrearages of dividends at December 31, 1940 of $51 per share.

6,899—

Mr. Van Wyck has testified with regard to the 5 per cent. preferred stock of Illinois-Iowa Power Company. There were 461,522 shares held outside of The North American system at December 31, 1940, on which there was an arrearage of $9.16⅔ per share, and that company also had outstanding dividend arrears certificates calling for $24 per certificate, which were held outside of The North American 8451
system to the extent of 465,217 certificates. Those certificates were issued in 1937, in connection with the reclassification of the stock of that company.

Also, Illinois Traction Company had 210 shares of 6 per cent. preferred stock held outside of The North American system, on which arrearages amounted to $48 per share at December 31, 1940.

There is another company, which is a utility company, a small company, the Kewanee Public Service Company. It

8452 *Herbert C. Freeman— By Respondents—Direct*

has 7 per cent. preferred stock outstanding, of which 5,504 shares are held outside of The North American system, and the arrearage amounted to $28 a share.

Q. That stock was issued, was it, prior to the time at which Kewanee Public Service became a subsidiary of The North American Company? A. Yes.

And with regard to all of the North American Light & Power securities that I have mentioned, and securities of

—6,900—

8453 subsidiaries of that company, it should be kept in mind that we did not acquire control until 1932.

Q. Now can you relate the total par or stated value of publicly held preferred stocks of subsidiaries of The North American Company on which arrearages now exist to the total par or stated value, in principal amount, of preferred stocks and funded debt of The North American Company, consolidated, outstanding in the hands of the public at December 31, 1940? A. Including the stocks of Illinois-Iowa Power Company, those stocks on which there are arrearages represent approximately 4.62 per cent. of the total par or

8454 stated value, in principal amount, of preferred stocks and funded debt, consolidated, of The North American Company and subsidiaries.

Q. Are the full dividends now being earned on the preferred stocks of North American Light & Power Company and Illinois-Iowa Power Company for the year 1940? A. Yes, they are, and in both cases.

Q. When were dividends first paid by The North American Company on its common stock? A. The first dividend on the common stock was paid in 1903.

8455

Q. And what has been the record with respect to dividend payments on common stocks since that time? A. They have been paid continuously, either in cash or stock, each year for thirty-eight years, except for the year 1908. They

—6,901—

were omitted in 1908 because of the panic in 1907 and the business depression that followed.

The amounts paid in per cent. of par or stated value have ranged from 3.75 per cent. to 16 per cent.

8456

Q. And as to the aggregate payments in cash on the common stock of The North American Company, what has the total been since 1903? A. The total cash dividends to December 31, 1940 have amounted to $97,071,845.77.

Q. And have there from time to time during the company's existence been dividends paid in other securities, other than common stock? A. There was a dividend paid in 1922, in preferred stock.

Q. Of The North American Company? A. Of The North American Company.

8457

And in 1939 and 1940, dividends were paid in participating units for common stock of Washington Railway and Electric Company. These dividends, together, had a cash value at the date of declaration, of about $4,100,000.

Q. Now, as to dividends paid on common stock in common stock, what has been the total number of shares of common so issued? A. From 1923 to 1934, 5,489,235.945 shares of common stock were issued as dividends on the common stock, resulting in a charge to earned surplus of a total

—6,902—

amount of $59,853,941.80.

8458 *Herbert C. Freeman—By Respondents—Direct*

The market value of those shares, based on the closing prices at December 31, 1940, amounted to $91,258,547.59.

Q. Now, that aggregate figure which you have just given is based on market price at December 31, 1940 and not at time of declaration, is that correct? A. That is true.

Q. As to dividends paid on outstanding preferred stocks of The North American Company, what has been the aggregate amount of such payments? A. On the 6 per cent. preferred stock, the dividends have aggregated $33,056,026.25,
8459 to January 2, 1941; and on the 5.75 per cent. preferred stock, the dividends have aggregated $3,827,068.06 to that date.

Q. Those figures in each case represent actual cash payments, do they not? A. Yes, those dividends have been regularly paid each quarter since the stocks were issued.

Q. Was there a reclassification of common stock in 1901? A. Yes, in 1901 the common stock was reduced to 30 per cent. of the amount previously outstanding; that is to say, one new share of common stock was issued for each 3⅓ shares theretofore outstanding.

—6,903—

8460 Q. Will you illustrate the growth in value, based on market prices of an investment made subsequent to the date of that reclassification which you have referred, in terms of present value? A. Assuming that an investor at that time had bought 100 shares of stock and had retained all stock dividends received since that time and had exercised all his rights to subscribe to new stock, the results would have been as follows:

The original investment would have cost him $92.50 for each share of the par value of $100, that is, $9,250 for a

8461

100-share investment. The exercise of rights to subscribe for additional common stock would have called for an additional investment by him of $14,500, so that his total investment would have been $23,750.

On that investment, he would have received, to January 1, 1941, cash dividends on the common stock of an aggregate of $52,897.37, and cash dividends on the preferred stock of $10,759.50——

Q. (Interposing) The preferred stock to which you have referred being preferred stock received during the course of the period as dividends on common stock or as a result of a reclassification of common stock held, is that right? A. That is right, yes, sir. So that his total cash dividends would have been $63,656.87.

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—6,904—

He would also have received special dividends paid in 1939 and 1940, in participating units, for common stock of Washington Railway and Electric Company, a total of 133 units, with a value at the date of declaration, of $2,348.50; so that he would have received in dividends in cash and securities of other companies, of an aggregate amount of $66,005.37.

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Q. Now, what rate of return does that indicate on the original investment? A. The average years invested, the weighted average of his investment, to January 1, 1941, would be 32.61 years.

Q. Do you mind explaining your use of the term "weighted average"? A. That is arrived at by taking the number of years for which each individual amount which he invested has been invested from the time of the investment

to January 1, 1941, and dividing by the total amount of the investment.

That average is 32.61 years; so that the dividends in cash and securities of other companies would represent a return of 8.5 per cent. per annum from December 31, 1901 to January 1, 1941, on the average yearly invested capital.

Q. Now, what would be the market value at December 31, 1940 of the securities now represented by the original investment so made in common stock? A. The investment would
8465 now be represented by 4,457 shares of common stock, of $10 par value, and 184 shares of 6 per cent. preferred stock, of

$50 par value. Valuing those at the market values at December 31, 1940, that is to say, 16⅝ for the common and 57 for the preferred, would give a value of $74,097.63 for the common and $10,488 for the preferred, a total of $84,585.63; so that the total market value at December 31, 1940 is more than three and one-third times the amounts of his original cash investment.

Q. The figure of current market value which you have
8466 given, I take it, is in addition to the amount of dividends received on the original investment, either in cash or in participating units of Washington Railway and Electric Company? A. That is correct.

Q. Now, are you able to state the current rate of return on the present market value of the original investment to which you referred? A. The current rate of return, that is, for this purpose treating common stock dividends at the rate recently paid, of $1.20 a share, represents a little over 7 per cent. on the market value of the stocks held, taken at December 31, 1940 prices.

 8467

Q. You have spoken of the stock dividend policy of The North American Company over a period of years. What was the significance of this policy in the operations of The North

American Company system? A. It was a policy that had a very great effect upon the development of The North American Company and its subsidiaries. It was of the greatest possible importance in their development, because it permitted of the retention in the system of all of the earnings during that period, with the exception of those required to 8468 pay the dividends on the securities of the subsidiary companies and on the preferred stock of The North American Company.

Now, during the period from 1923 to 1934, inclusive, the consolidated income of The North American Company, after provision for preferred stock dividends of subsidiaries and minority interests in subsidiaries, but before provision for The North American preferred dividend, amount to an aggregate of $215,148,003.26.

That does not include the undistributed income of the Washington Railway and Electric Company during the pe- 8469 riod from the time of its first acquisition to the first time it was taken in as a consolidated subsidiary, and that amounted to $6,700,199.69. That is the portion applicable to The North American holdings of the common stock of that company.

Adding that amount gives a grand total of $221,848,202.95.

The cash dividends paid on the preferred stock of The North American Company and the dividends which were

paid in 1934, in cash, as I have previously mentioned, on the common stock, for the entire period amount to $27,126,480.08; so that there was retained in The North Amer-

—6,907—

ican Company and its subsidiaries an aggregate of $194,721,722.87.

Now, there were certain charges and credits to surplus, both of the subsidiary companies and of The North American Company during that period, which affects that balance

8471 that was originally transferred to surplus from income; but the net additions to surplus during that entire period——

Q. (Interposing) That is 1923 to 1934? A. Inclusive, yes, amounted to $66,369,286.91, as to surplus of subsidiaries; and $96,212,173.70, as to The North American Company, but as to that figure, with respect to The North American Company, $59,853,941.80 was transferred to capital and capital surplus, and the remainder—the transfer to capital and capital surplus represented the capitalization of the stock dividends paid—and the remainder of $36,358,231.90 remained in earned surplus; so that after all surplus charges, other

8472 than those with respect to the issuance of stock dividends, $162,581,460.61 was allowed to remain in the consolidated enterprise, which represented $29.62 of net assets per share on each of the 5,489,236 shares of common stock issued as stock dividends during that period.

Q. What was the effect on the operations of the system of retaining this surplus within the system? A. It provided that amount of capital for improvements and additions and

—6,908—

for the acquisition by The North American Company of additional investments, without the necessity for any financing.

Q. What was the carrying value at December 31, 1940 of the investments held by North American? A. The total carrying value of investments at December 31, 1940, was $288,285,708.19.

Q. Now, does this figure include advances to subsidiaries, consolidated? A. It includes advances to subsidiaries, consolidated, not current, amounting to $5,008,628.68.

Q. And does it exclude certain short-term investments? A. Yes, there were in addition short-term investments carried at $501,735.54; so that the carrying value of investments, applying adjustments for those two figures I have mentioned, at December 31, 1940, was $283,277,079.51. 8474

Q. You stated, previously, certain periods in the company's history with respect to issuance of securities. Are there other recognizable periods which can be stated with respect to acquisition of public utility subsidiaries? A. There are, broadly, four main periods. There is the initial periods, from 1890 to 1903, when The North American Company acquired its initial investments in the Wisconsin-Michigan area, in St. Louis, and the minority investment in Detroit. 8475

In the properties centering around Milwaukee, the company had acquired an interest at its formation, in 1890. It had increased that investment to approximately 88 per cent. of the stocks of the company operating in Milwaukee by 1895, and by 1905 it owned 100 per cent.

In St. Louis, its first investment was in 1901, and it owned substantially all of the stock of the company operating there by 1906.

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The minority investment in Detroit, acquired in 1903, represented 14.73 per cent. of the stock of that company.

Q. Outstanding at that date? A. Outstanding at that date.

The Wisconsin group was increased in 1912 by the addition of Wisconsin Gas & Electric Company.

Q. Now, what was the next period of major growth in the ownership of public utility subsidiaries? A. The next period of its large expansion was from 1922 to 1928. That
8477 included the acquisition of control of The Cleveland Electric Illuminating Company, in 1922, and a small investment in Washington Railway and Electric Company, in 1924, a further investment in 1925, and control of that company in 1928.

Then our present minority interest in the Pacific Gas & Electric Company is related to this period, through the acquisition in 1925 of control of Western Power Corporation.

—6,910—

During this same period, we acquired 42.5 per cent. of the voting stock of North American Light & Power Company,
8478 in 1926, which was at that time intended as a minority investment to aid in the development of the Midwestern territory.

Then in 1920 we organized Wisconsin Electric Power Company.

Q. Is that the old—— A. (Interposing) That is the old company of that name.

Q. And why was that company organized? A. It was organized for the purpose of constructing the Lakeside power plant, which was leased to the Milwaukee Electric Railway

8479

& Light Company, the present Wisconsin Electric Power Company.

Q. The capital for this company was supplied, was it, by The North American Company direct? A. The equity capital was; and the company was financed by senior securities.

At that time, the Milwaukee Electric Railway and Light Company would not have been in a position to finance the construction of the building of that station, itself; but in 1938, in connection with the refinancing of The Milwaukee Electric Railway and Light Company, the stock of Wisconsin Electric Power Company was acquired by that company and the companies were merged.

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Q. In other words, at that time North American sold its

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interest in the old Wisconsin Electric Power Company to the company now named Wisconsin Electric Power Company, is that right? A. That is correct, yes.

Q. And during the period, did The North American Company also organize the company then known as Union Electric Light & Power Company of Illinois? A. That company was organized in 1923, for the purpose of constructing the power plant at Cahokia. That plant was operated by a subsidiary of the Union Electric Light & Power Company of Missouri, as it was then called, under lease.

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Now, the stock of that company was sold by The North American Company to the Union Electric Company of Missouri in 1928.

Then in 1925, The North American Company acquired control of the Mississippi River Power Company, and the

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stock of that company was turned over to the Union Electric Company of Missouri in 1926.

Q. Now, in the case of these three transactions of which you have spoken, involving the disposition by North American of Wisconsin Electric Power Company, Union Electric Light & Power of Illinois, and Mississippi River Power Company, what was the basis on which the ownership of those companies was transferred to the company acquiring the same?

8483 In the case of the stock of Wisconsin Electric Power —6,912— Company, it was transferred to the Milwaukee Electric Railway and Light Company, at the aggregate of the capital plus accumulated surplus of that company up to the date of transfer, and the Milwaukee Company paid for it in its preferred stock, which was acquired at that time by The North American Company.

Q. In other words, am I correct in understanding that the basis was cost plus earned surplus since date of acquisition? A. That is correct.

8484 In the case of Union Electric Light & Power Company of Illinois, the basis was the same; it was turned over at the cost to The North American Company plus the undistributed earnings of Union of Illinois up to the time of the transfer.

In the case of Mississippi River Power Company, the basis was a little different. The North American Company had acquired some of the stock of Mississippi River Power prior to 1925, and on the cost of that stock North American received in addition to cost, 6 per cent. carrying charges on

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cost, and as to the stock acquired, I believe it was in August, 1925, which was acquired by an exchange of stock of North American for the stock of Mississippi River Power Company, common stock of North American, there was a short period, I believe from August to December, 1925, for which Union of Missouri paid North American the equivalent of the dividends on the stock issued by North American in acquisition of the remaining stock of Mississippi River Power Company.

—6,913—

8486

Q. Now, during this period of which you have been speaking, was there also the acquisition of the properties now constituting Wisconsin Michigan Power Company? A. Yes, those properties were acquired in 1924.

Wisconsin Michigan Power Company was formed as a reorganization of Peninsular Power Company, and at the time of the reorganization, various properties which had been acquired by the North American Company were merged with Peninsular Power Company.

In that case, the properties were taken over by the present Wisconsin Michigan Power Company, on the basis of a valuation of the properties which was approved by the Wisconsin Commission, and the Michigan Commission.

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Mr. Hamilton: This is a good breaking point, Mr. Examiner.

The Examiner: All right, we will recess until two o'clock.

(Whereupon, at 12:22 o'clock p. m., the hearing was recessed to reconvene at 2:00 o'clock, p. m. of the same day.)

—6,914—

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(2:00 P. M.)

AFTERNOON SESSION

The Examiner: All right, gentlemen, let us resume.

Whereupon, HERBERT C. FREEMAN, having been previously sworn, resumed the stand and testified further as follows:

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Direct Examination by Mr. Hamilton (Continued):

Q. You had testified this morning, Mr. Freeman, as to certain acquisitions of subsidiary companies during the period of 1920 to 1928.

Subsequent to 1928 were there any additions of public utilities subsidiaries to The North American System? A. No actual public utility subsidiaries; however, there was the acquisition of control of North American Light and Power in 1932, due to the fact that Middle West were unable

8490 to live up to their obligations to take the additional stock offered from year to year and North American had to take it.

Q. I think Mr. Van Wyck has described the circumstances surrounding that transaction? A. Yes.

Q. Now, as to non-utility subsidiaries, will you state the time of acquisition of companies of that character which have entered into the system? A. In 1905, the control of West

—6,915—

Kentucky Coal Company was acquired. That was originally

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acquired with the idea of using it as a source of coal supply for the St. Louis Subsidiaries. As a matter of fact, however, the subsidiaries of North American have taken a comparatively small amount of coal from that property for a number of years and its sales are almost entirely to outsiders.

In 1924, North American Company acquired control, in fact acquired all of the outstanding stock of Sixty Broadway Building Corporation, in which the offices of the company are located, their idea being that apart from it being a good investment, it acted as a protection against possible rent increases and gave office facilities for the company.

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Then, in 1924, a company was organized, known as North American Utilities Securities Corporation, as a medium of investment of surplus funds for the North American Company and also to increase the diversification of The North American holdings and engage some additional outside capital.

Q. In general, what have been the characteristics of North American's investment policy over a period of years? A. The most outstanding characteristic, I would say, is the long-term character of the holdings. We have Wisconsin Electric Power, dating back to 1895, and from there, our acquisitions have covered the period up to 1924 and 1926 when we acquired Washington and North American Light

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and Power Company, so the holdings have ranged from a period of fourteen to fifty-one years.

Now, another outstanding characteristic has been the diversification, the location in important industrial and other

8494 *Herbert C. Freeman—By Respondents—Direct*

types of territory in different parts of the country and the stability that has resulted from our investments being in large cities. Then, we have the further stabilizing influence of The North American investments in Pacific Gas and Electric and Detroit Edison, which represent additional diversification, and particularly in the holding of P. G. & E., giving us a somewhat more uniform rate of income than we have received from our direct operating subsidiaries.

8495 Q. You spoke of the investment in Wisconsin Electric Power as originating in 1895. You were referring to the reorganization which occurred at that time? A. Yes, it was about that time that we really acquired our one hundred per cent. control,—no, our eighty-eight per cent.

We acquired our first interest there in 1890, but it assumed the proportions of a major subsidiary, I would say, in 1895.

Q. Now, after the specific dates of original acquisition, of securities of the various public utility subsidiary compa-

8496 nies, have there been substantial amounts invested by North American in those companies? A. Yes, the amount of additional investment has been very much greater than the original cost of acquiring the securities which gave us control.

The cost of original acquisitions has amounted to $94,839,116.06, and by original acquisitions I mean the purchase of the securities of existing companies which now represent our investment.

In addition to that, we have acquired properties which have been merged into, or consolidated with, properties which we already owned and our investment in those has amounted

to $74,811,965.98. In each of those cases, part of the investment has been in cash and part through the exchange of securities,—we have issued stock of North American.

Q. And in computing your composite figure, what value have you given the stock of North American Company issued in connection with those acquisitions? A. The value we have given to it has been based on the market price at the time of issuance, but it has not exceeded the market price, and in some cases, I would say that it has been stated at less than the market price. As a matter of fact, however, the proportion of those original acquisitions and of the subsequent acquisitions of properties which have been merged in with the 8498

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original acquisitions, represented by securities acquired for the stock of The North American Company, has only been about twenty-five per cent. of the total, or, about seventy-five per cent. has been represented by actual cash invested.

In other words, taking those two groups together, there is over $124,000,000.00, that represents cash,—and $45,000,000.00 represents securities acquired in exchange for stock of North American. 8499

Then, there has actually been invested in additional issues of stock of the companies after their original acquisition, a total of $146,535,670.93.

Now, against these costs of acquisition, there have been cases in which companies have been recapitalized on a basis which gave The North American Company some senior securities and some junior securities and in those cases, the senior securities have been sold and in other cases we have sold the properties which we have acquired to other subsidiaries

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and there have been outright sales of securities to outsiders and the aggregate of all this is $36,375,583.03.

Then, at different periods during the life of the company, securities have been revalued and the net effect, at the present time, of those revaluations is that our investments have been written-down by a net amount of $14,264,616.06. Those are the write-downs of securities which we now hold.

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8501 Q. Now, during the period in which the subsidiaries of North American Company have been subsidiaries, have large amounts of undistributed earnings been retained by those subsidiaries? A. Yes. Since the acquisition of the securities of our subsidiaries, I am excluding now North American Light and Power Company and North American Utilities Securities Corporation, the amounts of undistributed earnings which we have left in the subsidiaries have totaled $64,115,300.00.

Now, that is in addition to amounts of undistributed earnings of subsidiaries which have been capitalized and
8502 which have been treated as additional cost of investment in the subsidiary companies. That amounts to $16,156,849.32, and that amount is not included in the cost of the properties which I have mentioned above, which represented direct outlay, but it is included in the carrying values of the securities at the present time and is a proper addition to the cost of those securities from an accounting point of view.

Q. Now, in order to make it clear, your last statement, as I understand it,—these figures for undistributed earnings retained excluded any amount of earnings which may have

been retained by subsidiaries of North American Light and Power Company—is that right? A. Yes.

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Q. Does that also exclude earnings which may have been retained by Detroit Edison and Pacific Gas and Electric Company? A. Yes.

Q. What is North American's policy with respect to the value at which its investments are carried? A. The policy of North American has been to carry investments at cost, or less. 8504

Q. Well now, Mr. Freeman, will you explain what you mean by that? A. The cost has been regarded as including actual cash investment and a valuation based on market, as I explained before, of securities of North American issued for the purpose of acquiring other securities of subsidiaries on an exchange basis and it also includes the items I have mentioned before, of surplus of subsidiary companies which have been transferred from their surplus to their capital accounts and which is regarded as additional cost to North American of those investments.

Q. Now, in certain instances, have investments been written down below cost? A. Yes, there have been some cases of investments which have been written down. 8505

For example, North American Light and Power Company had accumulated a deficit up to December 31, 1937, applicable

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to the holdings of North American in the stock of that company, amounting to $7,918,204.50, and at that time, we wrote down our investment in the common stock of North American Light and Power by that amount and, in effect, took up that amount of loss.

In the case of North American Utilities Securities Corporation, the investments held by that company had depreciated in value as a result of the market slump and in March of 1933 we wrote-down the carrying value of our investment in the preferred stock of that company by $4,296,242.62, which was equivalent to the amount by which North American Utilities Securities Corporation, at that time, wrote-down its investment. That amount was written off against reserve for contingencies which had previously been pro-
8507 vided from earned surplus.

That amount, incidentally, was the proportion of the writedown of the investments of N. A. U. S. applicable to holdings of North American and excluding the proportion applicable to the holdings of the minority common stockholders.

Q. In the aggregate, is the underlying assets value of securities of subsidiaries owned by North American Company in excess of the carrying value of such securities? A. Yes, it is substantially in excess.

Q. Is that also true as to the investment in Pacific Gas
8508 and Electric, and Detroit Edison, and Washington Railway

—6,922—

and Electric? A. Yes, that is true in the case of those investments, also.

Q. Now, you spoke, I believe, of the existence of a net write-down on the books of North American and mentioned a figure. Will you explain that reference, further? A. That write-down has been the result of a number of transactions over the entire life of the company. At one time, there had been some write-ups on the books of the company,——

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Q. (Interposing) At what time was this? A. Those write-ups had all occurred prior to 1917. There have been no write-ups on the books since 1917,—and, at that time, the net write-ups amounted to $5,298,295.75.

The maximum amount of write-ups at any time on the books of The North American Company was $9,803,646.60, on December 31, 1906, and that has all now been offset by subsequent write-downs. It has not only been entirely eliminated, but the write-downs are now $14,000,000.00 in excess of any previous write-ups.

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Q. And at what date did net write-downs exist, as a positive figure? A. Well, there was an excess of write-downs first at December 31, 1934.

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Q. And that situation has continued without interruption since that date? A. That is so, yes.

I don't know if I have mentioned before the exact figure of the write-down.

Q. If you will, please. A. December 31, 1940—$14,264,616.06.

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Q. Now, with reference to the investment of The North American Company and Detroit Edison Company, will you state the number of shares owned by North American at December 31, 1940? A. At December 31, 1940, the North American Company owned 244,463 shares of Detroit Edison common stocks. They were carried on the books of North American at $29,822,316.04.

Q. What was the relation of the market price at that date to the then carrying value? A. The market price at December 31, 1940, based on the last sale, was 118, and at

8512 *Herbert C. Freeman—By Respondents—Direct*

that price, the investment amounted to a value of $28,846,634.00 which is about a million dollars below the carrying value. The carrying value of Detroit Edison, on the books of North American, represented ten per cent. of the corporate assets shown by the books at that date and the market value of Detroit Edison represented eight and eight-tenths per cent. of the combined market value of listed securities owned at that time and the carrying value of securities not

—6,924—

8513 listed.

Q. Now, what was the income received from this investment for 1940, and the relation of that income to gross income of North American for the year? A. The income for 1940 from Detroit Edison stock was $1,466,778.00, which represented six and eight-tenths per cent. of North America's corporate gross income for that year.

Q. Are these figures which you have given as to Detroit Edison exclusive of holdings of stock of that company by N. A. U. S.? A. Yes, in each of these figures which I have mentioned, I have excluded one thousand shares of De-

8514 troit Edison which were held by North American Utilities Securities at December 31, 1940. They were carried by North American Utilities Securities at a carrying value of $70,500.00.

Q. As to the investment of North American in Pacific Gas and Electric, will you give us similar information with respect to it? A. At December 31, 1940, North American held 2,002,770 shares of Pacific Gas and Electric Company common stock which were carried by North American at $63,765,418.62. The market price of Pacific Gas and

Electric, at that date, was twenty-seven and one-half. That is based on the last sales price and at that price, the investment amounted to a value of $55,076,175.00. The carrying

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value of this investment represented twenty-one per cent. of North American's corporate assets as shown by the books and the market value, which I have mentioned represents sixteen and eight-tenths per cent. of the combined market value of listed securities and the carrying value of securities not listed. 8516

Q. Again, as of December 31, 1940? A. Yes.

Q. Now, will you state the amount of income received from this investment by North American for the year 1940? A. In 1940, North American received $4,005,540.00 in dividends on Pacific Gas and Electric common stock. That figure represented eighteen and one-half per cent. of North American's corporate gross income for the year.

Q. Are these figures which you have given as to the investment in Pacific Gas, exclusive of holdings in that company by North American Utilities Securities? A. Yes, they are. North American Utilities Securities, at December 31, 1940, held 8517 fifty-six thousand, nine hundred shares of Pacific Gas and Electric common, which were carried by them at $1,254,582.30 and those figures are not included in the figure I have mentioned for the North American Company.

Mr. Hamilton: Please mark this table for identification as Respondents' Exhibit No. 126.

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(The document referred to was marked for identification as Respondents' Exhibit No. 126.)

8518 *Herbert C. Freeman—By Respondents—Direct*

By Mr. Hamilton:

Q. Will you state what this exhibit represents, Mr. Freemen? A. This exhibit represents a statement for the years 1936 to 1946, inclusive, by years, of the dividends received from Pacific Gas and Electric Company and the Detroit Edison Company by The North American Company, and a statement for each of those years of the gross corporate income of The North American Company and of the debenture interest and preferred dividends of The North American
8519 Company.

Q. This exhibit has been prepared under your direction, has it? A. Yes.

Q. And the facts shown, taken from the records of The North American Company? A. Yes, sir.

Mr. Hamilton: I offer it in evidence as Respondents' Exhibit No. 126.

Mr. Binford: No objection.

The Examiner: It is received under the number mentioned.

8520 (The Respondents' Exhibit No. 126, received in evidence.)

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By Mr. Hamilton:

Q. Now, I believe you testified, Mr. Freeman, that the first acquisition of stock by North American in Detroit Edison dated back to 1903 and I believe you also gave a percentage to the total stock outstanding of the Detroit Edison represented by that original investment? A. Yes.

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Q. In general, has that relative percentage continued in substantially the same percentage since the date of original investment? A. It has somewhat increased over the years. The percentage owned at the close of the year, 1903, was 14.73 per cent. of the outstanding stock of Detroit Edison Company.

At the present time, the percentage owned represents 19.29 per cent., that latter figure does include the one thousand shares of stock owned by North American Utilities Securities Corporation.

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The holdings have not at any time exceeded, at the end of any year, 19.59 per cent., which was at the end of 1928.

Q. I do not believe this record shows the particular service territory of Detroit Edison.

From your information as to the company, could you state, very briefly, and without detail, the general location of the service territory of this company? A. It covers an area around Detroit, Michigan, in the southeastern part of

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the State and extending up into what is known as the "Thumb" of Michigan. I can't give the exact area covered, but it is substantially the southeastern portion of the State of Michigan.

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Q. Now, have you stated the first date at which an interest in the common stock of Pacific Gas and Electric Company was acquired by North American? A. The acquisition of our holdings in Pacific Gas and Electric resulted from the acquisition by us in 1925 of the control of Western Power Corporation.

8524 Western Power Corporation owned Great Western Power Company, San Joaquin Light and Power Company, and Midland Counties Company. The Great Western Power Company served a territory that was, to a great extent, included in the service territory of the Pacific Gas and Electric Company. There was competition between the two companies. The San Joaquin property adjoined the Southerly end of the service territory of Pacific Gas and Electric. At the time we acquired control of Western Power Com-
8525 pany, that company had a number of projects under way.

Q. By "that company" you refer to what? A. Western Power Company, which called for the expenditure of very considerable amounts of capital so that during the period from 1925 to,—well, to the end of 1929 and the beginning of 1930, that company had invested approximately

$27,000,000.00 in additions and improvements to its subsidiary companies and the greater part of that was represented by indebtedness of Western Power Corporation to
8526 The North American Company.

For example, they had begun the construction of a tie-line from Sacramento, one hundred and four miles south to Merced, in the Southern part of the territory. The purpose of that tie-line was to enable current generated during the early spring run-off in the San Joaquin territory, which was uncontrolled, to be used for generation of current that could be used by Great Western in serving its territory and enabling Great Western to conserve water in its own reservoirs in the North, where the water was controlled. At the same time, Great Western was raising what was known

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as the "Big Meadows" dam in the upper reaches of the Feather River, forty-five feet which increased the storage capacity of Lake Almanor from about three hundred thousand acre feet to one million, three hundred thousand acre feet. That water discharges through the North Fork of the Feather River.

They had also entered into a contract with the Feather River Power Company for the construction of a forty thousand kilowatt plant at Bucks Creek, which was to be operated by Great Western under a lease. They were also 8528
building a plant known as the Balch plant on the Kings River in the San Joaquin territory and they were building a thirty-five thousand,—that was a thirty-five thousand kilo-

—6,930—

watt plant,—and they were building a thirty-five thousand kilowatt steam plant in San Francisco in order to have firm power near their largest point of demand.

Now, all of those improvements fitted in perfectly with the requirements of Pacific Gas, and the two properties, in a sense fitted together like a hand and a glove so that it 8529
was a very definite achievement in the direction of integration to bring those two properties together.

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We started negotiations with Pacific Gas in 1929 and they were continued, and concluded about March, 1930.

Q. By "we", do you refer to Western Power Corporation? A. Really, the North American Company, speaking for Western Power Corporation, and the necessary Commission approvals were obtained and the transaction was closed on the 12th of June.

8530 *Herbert C. Freeman—By Respondents—Direct*

Now, as a result of that transaction, the outstanding securities and advance accounts of the subsidiaries, the operating subsidiaries of Western Power Corporation which amounted to approximately $67,800,000, were acquired by Pacific Gas against the issue to us, to Western Power,—I should say,—in that case, of 1,825,000 shares of its common stock with a par value of $25 a share.

Q. The stocks of Pacific Gas & Electric Company? A. Yes, which represented a par value of $45,625,000, so that
8531 there was an actual reduction in outstanding capitalization by this transaction of over $22,000,000.

Q. On the books of Pacific Gas & Electric? A. Yes, on a consolidated basis.

In addition to the $23,700,000, approximately, by which the investment in the subsidiaries of Western Power Corporation had been increased during our period of ownership, the North American Company provided funds for the retirement of senior securities of Western Power Corporation which amounted to over $15,000,000,—approximately $15,

—6,932—

8532 500,000,—so that we had improved the situation during our period of ownership by approximately $39,200,000.

The whole result of the transaction was a very constructive job.

Q. From whose standpoint? A. A rounding out of the territory of Pacific Gas & Electric which was regarded with very considerable favor in that State, and I would like to add that, at this point, that those negotiations were conducted entirely upon the basis of our relinquishing our holding company situation with regard to the Western Power

properties and becoming investors in the common stock of Pacific Gas.

Q. Well now, would it be accurate to summarize this transaction by saying that the transaction resulted in a shift from properties possibly controlled by North American to an investment in securities of Pacific Gas & Electric Company? A. That is exactly what happened.

Q. Now, you stated that a certain number of shares of Pacific Gas & Electric were received by Western Power in connection with this transaction. 8534

Under what circumstances did all, or part, of those shares come to North American at a subsequent date? A. A Part of them came to North American as the result of an offer made by Western Power Corporation to its stockholders of

—6,933—

a portion of those shares at a price below the market, to provide funds for the retirement of senior securities of Western Power, and the balance came to North American upon the liquidation of Western Power.

Q. And approximately what was the extent or number of shares so acquired by North American directly upon the 8535 liquidation of Western Power Corporation? A. I should mention that in the meantime, there had been an additional issue of stock of Pacific Gas & Electric. Of the 1,825,000 shares of common stock received by Western Power Corporation, 804,580 shares were acquired by the North American Company at the time of this offering and 365 shares were acquired by minority stockholders of Western Power Corporation. That left Western Power Corporation with about 1,020,000 shares, and in 1931, that corporation subscribed

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for 102,005 shares of original issue by Pacific Gas & Electric, and at the same time, the North American Company acquired 80,445 shares of original issue.

At the time of the liquidation of Western Power Corporation, which occurred in 1936, that corporation had 1,112,060 shares, of which the North American Company received 1,110,786.31 shares, on liquidation, and the balance went to minority stockholders.

Q. Those are shares of Pacific Gas & Electric you are
8537 referring to now, are they not? A. Yes, I beg your pardon,—

—6,934—

I said the balance were transferred to minority stockholders, —in addition, the North American, itself, delivered a small number of shares as an adjustment to some of them, upon the liquidation.

Q. Now, what benefits, if any, accrue to North American by reason of the ownership of these two minority investments to which you have been testifying? A. The chief benefit, I would say, was stabilization of income, and that is par-
8538 ticularly true with respect to holdings of Pacific Gas & Electric Company stocks. The dividend on that stock, at the time it was acquired, was at the rate of 8 per cent. per annum. That was reduced to 6 per cent. in the latter half of 1933, and it was restored to 8 per cent. again in the last quarter of 1936, so that the income from that holding was comparatively stable.

The dividends on Detroit Edison have not been quite so stable. They were also at the rate of 8 per cent., up to 1932, or '33, and then dropped to 4 per cent., and they have now been increased to 6 per cent. per annum.

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Q. Since you are speaking in terms of percentages, perhaps you had better state the par value of the securities of each company, if you will? A. The par value, in the case of Pacific Gas & Electric, is $25, so the 8 per cent. represents a $2 dividend; in the case of Detroit Edison, the par value of it is $100 per share, but the stabilizing influence of those

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dividends on the income of North American have been quite appreciable over this period in 1933 and 1934 when the income fell off quite badly from operating subsidiaries.

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I might indicate that further in this way: The five-year reported earnings per share of Detroit Edison, from 1936 to 1940, ranged from $6.16 per share to $8.39; and for that same period, the reported earnings per share ranged from $2.55 to $2.84 per share.

Q. Now, the latter reference was to Pacific Gas & Electric, was it not? A. Pacific Gas & Electric,—yes.

Of course, in our income we take up only the dividends actually paid.

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Detroit Edison, of course, represents diversification to a considerable extent, as against our other properties. It is, perhaps, affected a little more definitely by changes in industrial condition than our other properties and will also have higher earnings in periods of good industrial activity.

It more nearly approximates Cleveland in that respect.

Pacific Gas is a different type of company. It appears that the Pacific Coast does not respond as quickly to changes in business conditions as the rest of the country. There is generally a lag there and when the change does come, it is

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not quite so violent as it is in the rest of the country, so, the

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two, together, are somewhat complementary and the large holding in Pacific Gas particularly stabilizes the situation.

Q. Does North American take the position that it does not control Pacific Gas & Electric Company? A. It never has controlled Pacific Gas & Electric Company.

Q. Does the North American System similarly take the position that it does not control Detroit Edison Company?

8543 A. Yes, the same is true with respect to that company.

Q. Does the existence of these holdings, these investments, by North American impair the operation of the utility subsidiaries of North American Company? A. Not in any sense. The operations of Pacific Gas have no relation whatever to those of our other subsidiaries.

The operations of Detroit Edison, as such, have no relation, but with Detroit, there has been a certain comity, you might say, between the management of that company and the management of our other companies which has led to an interchange of information, figures as to cost and things of

8544 that kind, and an exchange of experiences and engineering records, but there is no other effect upon the operations of our subsidiaries.

Q. Has that interchange, as to Detroit Edison, been of value to the North American System? A. I would say quite definitely that it has been of value.

—6,937—

Q. What members of the North American organization, as such, devote time and effort to the matters of Detroit Edison and Pacific Gas? A. Mr. Fogarty, who is Chairman of

the Executive and Finance Committee of the North American Company, is a Director of the Detroit Edison Company and spends such time as a Director is required to spend on the business of a company.

Apart from that, the other members of the organization examine the monthly income statements and keep posted as to the developments with regard to Detroit Edison, on account of the investment we have in that company.

The amount of time required is, I would say, inconsequential in relation to the total business. 8546

As far as Pacific Gas & Electric is concerned, Mr. Fogarty and I are both Directors of that company and as such, we receive copies of their Minutes, both of the Board of Directors and of the Executive Committee. The Executive Committee Minutes are sent to us as a matter of courtesy, and we also receive the weekly reports of the electric and gas output, precipitation reports, the reports of expenditures for improvements and additions authorized by the Executive Committee, and the monthly income and balance sheet and statistics.

As far as I, personally, am concerned, I study all of those reports, and the amount of time consumed is not very great. 8547

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Neither Mr. Fogarty nor I have visited California for the purpose of attending meetings of Pacific Gas & Electric Company.

Q. In your own case, does the time which you devote to the matters of Detroit Edison and Pacific Gas impair or impede the attention which you devote to the matters of the public utility subsidiaries of North American Company? A. I would say,—not at all.

8548 Q. From your own observations, and speaking more broadly, does the attention which members of the North American organization devote to the matters of Detroit Edison and Pacific Gas & Electric impede or impair the attention which they devote to the matters of public utility subsidiaries of North American Company? A. No,—not at all.

Q. You have referred, from time to time, to North American Utilities Securities Corporation in your testimony.

8549 Will you state the date of incorporation, State in which incorporated, and the business performed by that company? A. North American Utilities Securities Corporation was organized in December, 1924, under the laws of the State of Maryland to engage in a general investment company business, of the management type.

Q. It is a direct subsidiary, is it, of North American? A. Yes.

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By Mr. Hamilton:

8550 Q. Now, I think you stated the original purposes for which this company was formed. Will you state what business it does presently? A. At the present time, the company is in an almost static condition, on account of the situation brought about by the registration of North American under the Holding Company Act.

Mr. Hamilton: Will you read back the answer, please.

(The answer of the witness was read back by the reporter.)

By Mr. Hamilton:

Q. Now, in order to get an idea of the function of this company in the holding company system, will you state the original capitalization of North American Utilities Securities? A. It was originally organized with two classes of preferred stock and common stock.

The first preferred stock was a $6 preferred stock, and the second preferred stock a $7 stock.

The $6 preferred stock was first offered through underwriters, to the extent of 100,000 shares, with 100,000 shares of common stock, in units of one share of each stock at $100 a unit. 8552

The North American Company took 60,000 shares of the second preferred stock and 400,000 shares of common stock, for $6,000,000.

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The units were originally part-paid, and it was intended to call the unpaid balance from time to time; but in 1927, the holders whose subscriptions were 50 per cent. paid were offered the opportunity to convert the units into fully paid stock, to the extent of 50 per cent. of the stock originally subscribed for by them, and as a result of that, the actual resulting capitalization was 66,548 shares of $6 first preferred stock, 60,000 shares of second preferred stock and 466,548 shares of common. 8553

Of the first preferred stock, 43,584 shares were reacquired and retired by North American Utilities Securities Corporation in 1930, and the balance were redeemed at $105 a share in 1931; so that there is now outstanding only 60,000 shares of second preferred stock and the common stock.

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Q. Now, were certain holdings by The North American Company of the common stock of the North American Utilities Securities disposed of during the period, and if so for what purpose? A. In 1928 and 1929, there was considerable speculation in the common stock of North American Utilities Securities, and the price of the stock was becoming entirely out of proportion to its asset value. This was called to the attention of the Curb——

Q. (Interposing) By the "Curb" you refer to what? A.
8555 The Curb Exchange in New York. —and also the specialists,

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but that seemed to have no effect; and The North American Company, in the interest of preventing the stock, the price of the stock from running away, sold 23,859 shares to try to bring about a more orderly market.

Q. Now, over a period of years, what have been the earnings per share on the now outstanding second preferred stock? A. Approximately $4.50.

Q. All this stock is owned by The North American Com-
8556 pany, is it? A. Yes, sir.

Q. And there is currently an arrearage on this stock, is there? A. At December 31, 1940, there were arrears of $25 a share, and at that date, based on current market quotations, there was no asset value for the common, and the second preferred stock would have been entitled on liquidation to approximately $2,800,000 in excess of asset value, with securities valued on the market at that time.

Q. Now, will you indicate the net earnings of the company for 1940, in dollars? A. For 1940, the net earning

amounted to $279,190. The only expenses that had to be provided for were taxes, of $14,681, and miscellaneous expenses and interest, of $1,775.

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No officers' salaries have ever been paid by the corporation, and no directors' fees have been paid since June, 1938; and there are no other operating expenses.

Q. There is no investment advisory service employed by North American Utilities Securities? A. No.

Q. Or other servicing arrangement? A. No. 8558

Q. Very briefly, what is the general nature of the portfolio held by the company? A. It is a well diversified list of securities, representing referred and common stocks of about 120 companies, of marketable securities. The largest holding, which represents one-third of the total assets, is the 56,900 shares of common stock of Pacific Gas & Electric Company, which I have mentioned.

I can give an analysis of those securities, by classes of investment, at December 31, 1940.

Q. Very briefly, if you will. A. The market value at that time was $4,667,865, which consisted of common stocks of 8559 railroads, to the extent of 3.37 per cent.; common stocks of utilities, 42.04 per cent.; preferred stocks of utilities, 1.10 per cent.; common stocks of industrials, 52.33 per cent.; preferred stocks of industrials, 1.16 per cent.

—6,943—

Q. Have there, from time to time, been considered plans of liquidation of North American Utilities Securities? A. We have discussed plans for liquidating it several times, over the past two or three years, and we have submitted one of

those plans, informally, within the last two or three months, to the Securities and Exchange Commission, but——

Q. (Interposing) In general, what was the nature of that plan? A. The plan called, in general, for the surrender to the corporation by The North American Company of its second preferred stock, and part of its common stock, for assets of North American Utilities Securities, and for the retirement of those stocks by North American Utilities Securities.

The basis upon which the surrender was to be made would
8561 have enabled North American Utilities Securities to liquidate, with a return of about $1 a share to the holders of the common stock——

Q. (Interposing) The publicly held—— A. (Continuing) —which represents the only outstanding interest in the hands of the public.

Q. To make clear your statement, is your figure of $1 a share applicable to the publicly held common stock of North American Utilities Securities? A. I do not recall at the moment whether it was to apply only to the publicly held

8562 stock. I think the basis provided for a liquidation to all of the common stock, but the $1 a share which The North American Company would receive would simply reduce the amount which it would have received upon the surrender of its second preferred stock, so that the effect is the same.

Q. This was the basis of the proposal, even though, in fact, a deficit existed with respect to asset value of the common stock? A. Yes.

Q. Was that plan, as so informally submitted, rejected by the Commission, informally? A. The Commission told

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us, informally, that they had difficulty in approving a plan of that kind, and it has been dropped for the time being, at any rate.

Q. Does the operation of North American Utilities Securities interfere with the operation of the utility subsidiaries of The North American Company system? A. I would say not at all.

At the time when the company was active, there was of course a certain amount of time spent by certain members of the organization in following the investments, but it did not interfere with the relationship of The North American Company to its operating subsidiaries.

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Q. Now, you have also referred in your testimony to a

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company which you designated 60 Broadway Corporation. In order that the record may be complete in this respect, would you very briefly give us the facts as to the business done by it, its dates of incorporation as a corporation, and North American's interest in it? A. 60 Broadway Building Corporation was incorporated in 1924, and we acquired the stock of the company in that year. There is one class of stock, $100 par value.

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Q. Under the laws of what state was it incorporated, if you know? A. New York State, I am sure.

The first unit of the building owned by 60 Broadway had been erected in 1908, and it was later enlarged to 25 floors.

It is located in downtown New York, in the financial district, and 12 floors are now occupied by the Central Hanover Bank & Trust Company, under a lease to 1954, with certain

8566 *Herbert C. Freeman—By Respondents—Direct*

rights of renewal; and two complete floors and part of three other floors are occupied by The North American Company.

The building is well maintained, and I think it has a good standing in downtown buildings, in spite of its age; and it is in good operating condition.

At the present time it is about 98 per cent. occupied, which is unusually high for office buildings in the financial section of New York.

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8567 Q. What was the original purpose of this investment? A. Investment, for one thing, and also as a hedge against possible rising rents, and it was particularly helpful in that respect in the late twenties and early nineteen thirties, when rents in the building were in the aggregate about 40 per cent. greater than they are at the present time.

Now, from 1928 to 1934, when the aggregate rents paid by tenants other than The North American Company ranged from an average rent of $4.42 to $5.25 per square foot, The North American Company paid 60 Broadway from $2.01 to $2.58 per square foot; so that in that respect the ownership
8568 has resulted in substantial savings to The North American Company.

But during that 7-year period, in spite of those low rents which North American paid to 60 Broadway, it received dividends on its investment in the capital stock of 60 Broadway in each year except 1934. The dividends were equivalent to a return ranging from 8.5 per cent. in 1929 to 20 per cent. in 1931.

Q. As of a recent date, what was the total assets of 60 Broadway? A. The balance sheet at December 31, 1940 shows assets of $4,871,832, with a mortgage of $1,918,750.

The investment by the North American Company is $350,000 in the stock, and an open account of $1,659,023.

The net income for 1940, after payment of all fixed charges and taxes, but before payment of interest on the

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debt to The North American Company, was $49,293, which represents the return to North American on its entire investment, and represents about 2.5 per cent. on the investment.

Q. Now, is the investment in this enterprise large or small in relation to the total assets of The North American Com- 8570
pany? A. It is quite small in relation to the assets; it is less than 1 per cent. of the total.

Q. On a corporate basis? A. On a corporate basis.

Q. Does the operation of this company interfere with the operations of the utility subsidiaries of The North American Company? A. Not in any way. It does not prejudice the interests either of investors or consumers.

Q. Has it represented over a period of years a source of revenue to The North American Company? A. Yes, it has in every year paid a return to The North American Com-
pany. 8571

Q. And are you able to state the total assessed valuation of the property at a recent date? A. The present assessed valuation is $3,375,000.

Q. Could this property be disposed of at this time without realization of substantial loss on North American's in-

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vestment? A. I would say that at this time there would inevitably be a substantial loss due to the depressed state of the real estate market in the financial district in New York.

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The Examiner: Let us have a short recess at this time.

(Whereupon, a short recess was taken.)

By Mr. Hamilton:

Q. You have also referred, from time to time, in your testimony to West Kentucky Coal Company. Will you state the date of its incorporation and the state under the laws
8573 of which it was incorporated? A. The West Kentucky Coal Company was incorporated in the State of New Jersey in 1905; and The North American Company acquired its interest in the company in that year.

Q. And why was this investment made? A. It was primarily with the idea that West Kentucky Coal Company would serve as a source of coal supply for the electric property in St. Louis, the intention being to barge the coal down the Ohio River into the Mississippi and then up to St. Louis.

It was found, however, that it had more value, really, as a defensive rather than as a direct source of supply for
8574 St. Louis.

Q. Now will you explain what you mean by that observation? A. The ownership of the property represents a source

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of supply upon which the companies could fall back, if necessity arose, and to what extent that has improved the bargaining position of the various companies in the purchase of their coal it is difficult to say.

At the present time, of course, with coal prices fixed, it probably does not operate in that way; but there is good reason to think it may have in the past.

Q. Now, in order to get a general idea of the properties operated by West Kentucky, will you state, very briefly, their location and general nature? A. The company owns mineral rights in 73,000 acres, 22,000 of which are held in fee simple.

The properties are in Union, Webster and Hopkins Counties, Kentucky, and there is also a leasehold interest in mineral rights in an additional 2,400 acres, in Union County.

The total present coal reserve approximates 400,000,000 tons, and there are four mines now in operation, two located 8576
at Sturgis and one each at Wheatcroft and Earlington, Kentucky.

Q. And the extent of the tonnage mined, if you will, in 1940? A. In 1940, the tonnage mined was 1,500,000 tons.

The present mines have a capacity of 2,000,000 tons a year on a single-shift basis, and 4,000,000 tons a year on a double-shift basis; and production has been gradually increasing

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since October 1 due to mechanization and triple-shifting of the mines, particularly the North Diamond mine.

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Q. Does the company own certain miscellaneous properties related to the enterprise, in addition to the leaseholds or acreage to which you referred? A. It owns various houses and stores near the mines; six miles of railroad; rolling stock operated in connection with the mines, and various tugboats and tugs and barges used for hauling coal on the Ohio and Mississippi rivers.

Q. And the total book value of the assets, if you will, at December 31, 1940? A. The total book value at that date was $19,160,829; and the gross revenues for 1940 were

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$3,814,169; and the net income for that year, before provision for preferred stock dividends, was $42,837.

Q. What is the relation of North American's investment in the company to the total assets of North American, on a corporate basis? A. North American's investment in West Kentucky Coal Company represents 2⅓ per cent. of the total corporate assets of the North American Company.

Q. At one time in the history of West Kentucky, were there electric properties operated by the company? A. There
8579 was an electric property owned by a separate electric company, a subsidiary of West Kentucky—the name, I think,

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was West Kentucky Electric Company—and it was sold to Kentucky Utilities Company in 1926. It did not integrate in any way with our other properties; it was an isolated operation.

Q. Why was it disposed of? A. I beg pardon?

Q. Why was it disposed of? A. It was disposed of because it was an isolated operation. We did not want to hold it because it did not fit in with our other properties, and we
8580 made a contract with Kentucky Utilities for the supply of electricity and water for a period of years at the time of the sale.

Q. Has the existence of North American's investment in the company interfered with the operations of the utility subsidiaries of North American? A. I would say not at all.

Q. I believe you may have indicated that from time to time in the past there have been sales to North American subsidiaries. That is a fact, is it not? A. Yes.

Q. Sales of coal? A. Yes.

In the aggregate, they have not represented a major part of the business of the company, but there have been sales from time to time.

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The Wisconsin properties have used some of the coal.

In the event of a stoppage of output, or any interference with the coal business, the ownership of that property might be extremely important to The North American Company.

Q. In what sense? A. As forming a source of supply of coal. 8582

Q. Has consideration been given from time to time to disposal of this investment? A. Yes, we have at times, within the last few years, given consideration to that . We have never had any real offers for the property. We have been approached once or twice by people who thought they might be in a position to acquire the property, but it has usually been on the basis of our retaining a very substantial investment in senior securities of some consolidated company.

Q. On the basis of your knowledge of the company, can North American's investment in West Kentucky be disposed of at this time without realization of substantial loss? A. 8583 I should think it was very doubtful whether we could sell it to advantage at this time.

Q. By that you mean a loss would be realized? A. I think almost certainly.

In that connection, of course we have already substantially written down the amount of our advances to this company, and we are carrying the common stock at no value. The only value which we carry for our investment is rep-

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8584 resented by the preferred stock and the reduced amount of the advances.

Q. Now, as to the present staff of The North American Company, of how many persons is it comprised? A. There are eight officers, two assistant officers, and ninety-nine employes, of whom nineteen are employed in the stock transfer department.

Q. What is the function of that department? A. It handles all the transfers of stock, both preferred and com-
8585 mon of The North American Company. The head of it is the transfer agent for the company.

Q. Does it also include personnel engaged in such matters as payment of debenture coupons? A. Of the North American Company, yes.

Q. There has been testimony in this proceeding previously as to the existence of a so-called 18th floor organization, which I believe had reference to certain personnel located on the 18th floor of 60 Broadway. What is the present status of this so-called 18th floor organization? A. It has been absorbed entirely by The North American Com-
8586 pany. It was operated by officers of the various subsidiary companies located in New York for a few years, but it was more or less of an experiment and was found to be cumbersome, and we finally decided to absorb the duties and expense.

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Q. And as of what date was this change effected? A. I think it was about the 1st of this year.

Q. Now with reference to the present officers of The North American Company, what are the facts with respect to periods of service? A. Eight out of the ten officers and as-

sistant officers have been associated with The North American Company for more than fourteen years, in each case. Three have been with The North American Company, or its subsidiaries, for more than twenty years. Those three are: Mr. Fogarty, who is chairman of the executive and finance committee, who has been with the company for thirty-eight years; Mr. Piske, vice-president and treasurer, twenty-nine years; and Mr. Ralph Moody, now a vice-president, twenty-eight years.

Q. In Mr. Moody's case, does that include service with 8588
various subsidiaries of The North American Company? A. Yes, with the Wisconsin Michigan group of companies. He has been in the New York office now for something over a year.

The treasurer, who retired the beginning of this year, had had thirty-five years' service with the company.

Q. Have you any data as to the rating in financial manuals of recognized standing of the debentures issued by The North American Company? A. The three series of debentures of The North American Company now outstanding
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have "A" rating in Standard Statistics, Poor's and Moody's.

Q. In general, what does that rating signify? A. The rating of "A", in general, in each case denotes investment rating.

Q. Now, as to the preferred stocks of The North American Company, have you any data as to their ratings? A. Both series of preferred stock have been given a "2*" rating by Standard Statistics, the "2" denoting stocks relatively well situated, marketwise, and the "*" denoting so-called storm cellar, or defensive stocks.

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Q. Now when were these debentures to which you have referred offered? A. Well, they were offered publicly early in 1939.

Q. And at what price? A. At 101¾ in the case of the 3½ per cent. debentures, 101 in the case of the 3¾'s, and 101¼ in the case of the 4's.

Q. Are all three series listed on the New York Stock Exchange? A. They are all listed, and the market range since the date of listing has been from 98 to 107¾ for the
8591 3½'s, from 97½ to 106¾ for the 3¾'s, and from 99 to 108⅞ for the 4's.

The call prices are, at the present time, 103 for the 3½'s,

102½ for the 3¾'s, and 103½ for the 4's.

In connection with the prices of those debentures, and the yields, it should be mentioned that the 3½'s are due in 1949, the 3¾'s in 1954, and the 4's in 1959.

Q. Now, as to the outstanding 5¾ per cent. preferred stock of the company, when was it offered and at what price? A. It also was offered early in 1939, at $52 per share, and it
8592 is listed on the New York Stock Exchange, and the range of market prices since the date of listing has been from 47¼ to 59. The call price of that stock is 55.

Q. As to the outstanding debentures, are there sinking funds in each case applicable to each series? A. There are sinking funds for each of the issues, requiring the retirement of 1½ per cent. per year, commencing in 1942, of the aggregate principal amount issued of each series of debentures.

Q. Now, I do not believe you have stated the yields to maturity on the debentures based on the public offering price.

Would you do that? A. The 3½'s, the price for the 3½'s represented a yield to maturity at the offering price of 3.29 per cent., the price for the 3¾'s represented a yield to maturity of 3.66 per cent., and for the 4's, of 3.91 per cent.

Q. At or about the time of issue of the debentures to which you referred, were previously outstanding debentures

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of The North American Company redeemed? A. Yes, sir, the 5 per cent. debentures which were then outstanding were redeemed at that time. 8594

Q. And have you any data to indicate the market acceptance of those debentures? A. The call price of those debentures, in 1938, was 103½, and they did not sell below that call price after May 6, 1938. They reached a high of 107⅜ in October, 1938. This latter figure represented a yield to maturity of 4.48 per cent.

Q. For how long a period have the annual reports to stockholders of The North American Company been accompanied by reports of independent auditors? A. Since 1903, the annual reports have been accompanied by reports of independent auditors. 8595

Q. Continuously? A. Continuously, yes.

Q. Now, with respect to other practices to disclosure of information, when were consolidated financial statements first published by The North American Company? A. The accounts were first presented in consolidated form in the report for 1920, and that practice has been continued since that time.

Q. And at what date were consolidated financial statements first furnished to stockholders in annual reports? A.

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Perhaps I misunderstood your previous question. I thought I was answering that in saying that they had first been presented in consolidated form in 1920, and continuously thereafter.

Q. Has the company for many years maintained a policy of having audits made by independent auditors of the books and accounts of subsidiaries? A. That practice also was started in 1920, and the reports of certain of the subsidiaries have been accompanied by auditors reports since 1932, and
8597 in other cases since 1934. By that I mean the reports to their stockholders.

Q. But in all cases since 1934, is that correct? A. Yes.

Q. For how long a period has North American distributed annual reports to its own stockholders? A. It has distributed annual reports for its entire period of existence, that is, for 51 years. The first annual report, which was for the year ending May 31, 1891, exists in typewritten form only, as far as we can find at this time. The only copy is a typewritten copy, and it was apparently read to the stockholders at the annual meeting on June 17, 1891.

8598 The second report for the year ended May 31, 1892, is in printed form, and includes the president's letter, commenting on activities and conditions of business during the year, and

gives a treasurer's statement showing the assets and liabilities of the company and a condensed income account.

Q. In what detail are annual reports currently submitted by The North American Company to its stockholders? A. The current annual reports contain a letter by the president referring to the operations and business of the company and

of its subsidiaries, consolidated accounts of the company and its subsidiaries of which 75 per cent. of the common stock and 50 per cent. of the voting control is owned, corporate accounts of the company, and statements of the outstanding funded debt and preferred stocks of the company and its subsidiaries, statistical statements of the properties and territories served by the subsidiaries, and statistical information with regard to the important minority investments of the company.

Q. In addition to the annual reports distributed to North American stockholders, have there also from time to time been interim reports which have been so distributed? A. There have been quarterly reports since September, 1924, and since 1928 they have been described as the president's quarterly letter. These reports have included twelve months' earnings statements, and up to November, 1934, balance sheets also were given, but the balance sheets were discontinued after November, 1934. 8600

Q. Now, generally, what has been the substance of the —6,960— matters covered by the so-called president's letter to which you have referred? A. The president's letter gives comments on the business and operations of the company and its subsidiaries for the quarter, and comparative income statements, which for several years were statements for the twelve months ended, but more recently they have given in addition to the twelve months ended income figures for the quarter ended. 8601

They also give lists of subsidiaries and statistics, and similar statistics for the companies in which we have important minority interests.

8602 *Herbert C. Freeman—By Respondents—Direct*

Q. Is it the practice of North American to address letters to stockholders whose holdings are transferred out of their name? A. Whenever a stockholder's account is closed, a letter is sent to him asking if the disposal of his stock has been due to any of several conditions, and a form is sent to him for him to check off the reason for the disposal of his stock and to add any comments he may wish to add, which is to be folded and mailed back to the company.

Q. Has this been done for many years? A. It has been
8603 done for about 16 years, and the average of replies during that period has been about 47⅓ per cent.

Q. In general, what is the policy of the company, North American, as to furnishing stockholders with information?

—6,961—

A. We have at all times been willing to give stockholders any information they might ask for.

We receive a number of inquiries through the mail. We also have interviews from time to time with the representatives of the standard services and other investment counsel,
8604 advisory services——

Q. (Interposing) That is financial services? A. Financial services—and we have telephone calls, and they are all answered; every letter that comes from a stockholder is answered.

Q. And has that practice been pursued for many years? A. Certainly as long as I have any knowledge, and knowing Mr. Dame, I am sure it goes back at least to 1920. I cannot speak about anything earlier than that.

Q. What policy has been pursued with respect to annual reports to stockholders by subsidiary companies, public util-

ity subsidiaries of The North American Company? A. The Wisconsin Electric Power Company, that is, the company which formerly was the Milwaukee Electric Railway and Light Company, has issued annual reports to its stockholders since 1920.

Q. Well, without going into detail on the particular companies, has there been a general policy with respect to annual reports submitted by the public utility subsidiaries to their

—6,962—

stockholders? A. For a number of years it has been the 8606
practice for the subsidiaries to send annual reports to their stockholders.

Q. My question really relates to a North American policy as to the type of report, detailed information, and so on. Has there been such a policy? A. Yes, the policy has been for several years' past, for those reports to consist of the regular accounts, with certificates of the auditors, and comments by the president of the company upon the business of the company.

Q. Now, in addition to the specific items which you have 8607
already referred to, is it the practice of The North American Company to furnish a detailed statement at its annual meetings by the president of the company? A. That has been a practice for several years past. The statement, which is read to those stockholders who are present at the meeting, is then printed and distributed to the whole list of stockholders.

Q. For how long a period have securities of The North American Company been listed on the New York Stock Exchange? A. The stock of the company has been listed since 1890, and all of the presently outstanding securities are

8608 listed on the New York Stock Exchange, and registered under the Exchange Act of 1934. —6,963—

Q. Has that policy of listing involved many applications over a period of years? A. During the period during which we were paying stock dividends, that is, from 1923 to 1934, we were listing additional common stock every three months, and as a result of that our agreement with the Stock Exchange and the extent of information furnished has been brought up to date very promptly, up to that time; in fact, 8609 I think we have to some extent been the pioneers in the adoption of a number of requirements by the New York Stock Exchange.

Q. Have securities of certain subsidiaries of The North American Company been listed on the New York Stock Exchange for periods of many years? A. The securities of Wisconsin Electric Power, certain securities, have been listed since 1896, and of the Union Electric Company of Missouri, since 1906.

Q. Now, in addition to these sources of information which you have already referred to, are certain reports submitted 8610 to insurance companies and other institutional investors? A. There are reports, which are generally described as the confidential reports to insurance companies, which are furnished every year by all operating subsidiaries with the funded debt outstanding in the hands of the public.

Q. Are these reports detailed in nature? A. Yes, they —6,964—

are rather more detailed than the ordinary annual reports. They classify the income and expenses, and also classify the property accounts and the depreciation reserve accounts.

They give details as to the generating capacity and of projected improvements, and matters of that kind.

Q. What is the function of this report? A. It is to enable institutional investors, who generally hold these senior securities of these companies in large amounts, to keep themselves currently advised of the situation of the companies.

Q. Are certain of the bonds issued by various subsidiary companies of The North American Company qualified as legal investments for savings banks in certain states? A. Yes, some of the outstanding bonds are qualified. 8612

Q. Do these qualifications involve the furnishing of annual reports of various nature to the appropriate authorities? A. Yes; there is, of course, the initial qualification and then the subsequent reports from time to time.

Mr. Hamilton: Off the record.

(Discussion off the record.)

The Examiner: All right, we will recess until ten o'clock tomorrow morning. 8613

(Whereupon, at 4:10 o'clock, p. m., the hearing was recessed, to reconvene at 10:00 o'clock, a. m., Tuesday, April 8, 1940.)

—6,965—

Vol. VIII

TRANSCRIPT OF RECORD

Supreme Court of the United States

OCTOBER TERM, 1942

No. 721

THE NORTH AMERICAN COMPANY, PETITIONER,

vs.

SECURITIES AND EXCHANGE COMMISSION

WRIT OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE SECOND CIRCUIT

PETITION FOR CERTIORARI FILED FEBRUARY 10, 1943.

CERTIORARI GRANTED MARCH 1, 1943.

United States Circuit Court of Appeals

FOR THE SECOND CIRCUIT

October Term, No. 721

THE NORTH AMERICAN COMPANY,
Petitioner,

v.

SECURITIES AND EXCHANGE COMMISSION,
Respondent.

TRANSCRIPT OF RECORD

TESTIMONY

Volume VIII

(Pages 2872 to 3238)

ON PETITIONS FOR REVIEW OF ORDERS OF SECURITIES AND EXCHANGE COMMISSION

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8614

BEFORE THE

Securities and Exchange Commission

Docket No. 59-10

IN THE MATTER

of

THE NORTH AMERICAN COMPANY, *et al.*

8615

Hearing Room 1101,
Securities and Exchange Commission Building,
18th & Pennsylvania Avenue, N. W.,
Washington, D. C.,
Tuesday, April 8, 1941.

Met, pursuant to adjournment, at 10:00 o'clock, a. m.

8616 Before: WILLIAM W. SWIFT, *Trial Examiner.*

Appearances:

S. PEARCE BROWNING, JR., and

CHARLES S. HAMILTON, JR., of Sullivan & Cromwell, 48 Wall Street, New York City, New York, appearing for The North American Company, et al., Respondents.

RALPH C. BINFORD, appearing for the Securities and Exchange Commission.

(10:15 a.m.)

PROCEEDINGS

The Examiner: The hearing will come to order.

Whereupon, HERBERT C. FREEMAN, called as a witness on behalf of the Respondents, having previously been sworn, resumed the stand and testified further as follows:

8618

Direct Examination by Mr. Hamilton (Continued):

Q. Mr. Freeman, have you any data as to the distribution of stockholders of The North American Company at a recent date? A. As of December 31, 1940, there were 73,131 stockholders, distributed among the various classes of stock as follows: 9,322 shareholders of 6 per cent. preferred; 6,124 holders of 5¾ per cent. preferred; and 57,685 holders of common stock.

Q. Now, as to the numerical distribution of the stock of the company, have you any figures to indicate whether or not it has changed or remained unchanged over a period of 8619 years? A. It has remained relatively unchanged over recent years.

Of the holders of 6 per cent. preferred stock, in March, 1935, 91 per cent. held 100 shares or less, and at the end of

1939, 90.6 per cent. held 100 shares or less; and of the holders of common stock, in March, 1935, 84.4 per cent. held 100 shares or less, and at the end of 1939, 85 per cent. held 100 shares or less.

8620 *Herbert C. Freeman—By Respondents—Direct*

Q. Have you any data to indicate the geographical character of the distribution of stock? A. The latest analysis we had by geographical distribution was in March, 1938, and at that time there were holders of common stock in every state, and holders of the 6 per cent. preferred stock in every state but Nevada, and there were also holders of both classes in the District of Columbia, in Alaska, the Canal Zone, Hawaii, the Philippines, Puerto Rico and the Virgin Islands.

8621 Q. Now, as to the type of security holder, has any analysis ever been made along this line? A. In March, 1941, we had some examination made of the types of holders. We have not had a complete analysis made for several years, but the distribution at that time showed many holdings among insurance companies, trustees, guardians, executors, educational and religious institutions and fraternal organizations.

Q. Did it apply to all classes of stock or one class? A. This applied both to common and preferred stock. For example, there was one life insurance company which owned 103,709 shares of common stock and 4,000 shares of 5¾ per cent. preferred stock, and another insurance company

8622

which owned 35,000 shares of 5¾ per cent. preferred stock, and another insurance company owned 15,000 shares of common stock and 6,700 shares of 6 per cent. preferred stock, and numerous other life, fire and casualty insurance companies owned preferred stock and common stock in lots ranging from 500 shares to 5,000 shares.

A number of large universities hold shares of preferred and common stock. One university owned 4,100 shares of

6 per cent. preferred stock and 7,000 shares of common stock, and another university owned 6,000 shares of 5¾ per cent. preferred stock and 2,519 shares of common stock.

We had an analysis made in December, 1940, to determine the number of common stockholders—or rather the number of shares of common stock registered in the name of banking institutions as trustees or co-trustees, and we found there were at the time out of 8,572,626 shares outstanding in the hands of the public, 463,592 shares registered in the names of 326 banking institutions as trustees or co-trustees for 1,296 8624 trust accounts.

Q. Now, have you caused an analysis to be made of the stock distribution of the Cleveland Electric Illuminating Company? A. Yes, I have been furnished by that company with figures relating to the holdings by stockholders other than The North American Company as of March 15, 1941.

—6,969-70—

Q. And what does that analysis disclose as to holdings within the service territory of the Cleveland Electric Illuminating Company? A. The analysis shows that out of 2,178 holders of record of the 2,324,564 shares of its common stock, 8625 there were 346 holders of record owning 31,109 shares who were residents of the territory served by the company.

Q. Those are holdings of record, are they not? A. Holdings of record, yes.

Q. And your figure applies to the common stock of—— A. (Interposing) That relates to common stock.

The holdings in the territory represent 1.3 per cent. of the total number of shares outstanding.

Now, as to the preferred stock, there are in all 4,300 holders of record of the 254,989 shares of preferred stock

8626 *Herbert C. Freeman—By Respondents—Direct*

outstanding, and of those, 1,201 holders of record were residents of the territory served by the company, and they held 60,159 shares, or 23.6 per cent. of the total number of shares of preferred stock outstanding.

Q. These, again, are record holdings, are they? A. Yes, those are record holdings.

Q. At the same date previously specified? A. Yes, sir.

Q. Now, have you had a somewhat similar analysis made

—6,971—

8627 of the distribution of common stock of the Detroit Edison Company in the state of Michigan? A. Yes, sir, I have been furnished with an analysis of the shares outstanding as of February 28, 1941.

Q. And what does that analysis disclose? A. That shows that of the total number of shares outstanding, that is, 1,272,260 shares, there are held by stockholders who are holders of record resident in the state of Michigan, a total of 288,405 shares, which represent 22.6 per cent. of the total number of shares outstanding.

Q. Now, in order to make your statement clear, I under-

8628 stand that as to Detroit Edison the figure relates to the entire state and is not confined solely to the service territory of the Detroit Edison Company? A. That is correct.

Q. May I ask you, Mr. Freeman, whether you know approximately how long in each case, that is, in the case of the Cleveland Company and in the case of Detroit Edison, securities, common stock, of those companies has been outstanding with the public? A. In the case of the Detroit Company, the present company was organized, I believed, in 1902, or early in 1903.

In the case of the Cleveland Electric Illuminating Company, I believe it has had securities outstanding with the public for 50 years. —6,972—

Q. And as to Detroit Edison, have securities, common stock, of that company been outstanding with the public since date of organization? A. Yes, sir.

Q. The Respondents' Exhibit 125 contains a table showing certain advances made by North American to various of its subsidiaries. Would you illustrate the nature and purpose of the more important of those advances? 8630

Mr. Binford: What page of the exhibit is that?

Mr. Hamilton: The table I refer to is page 68 of the exhibit.

The Witness: The table, I might mention, is somewhat limited in this respect, that it only shows the maximum balance due by the subsidiary companies to any or all of the three holding companies; The North American Company, the Wisconsin Edison Company, and North American Edison Company, in any year in which there was a balance owing by that subsidiary to those companies for more than six months during the year. 8631

By Mr. Hamilton:

Q. In other words—— A. (Interposing) So that certain advances that were made for particular purposes which were repaid within a comparatively short time do not appear on that schedule.

Q. Repaid within six months? A. Yes. —6,973—

8632 *Herbert C. Freeman—By Respondents—Direct*

These advances have been made by The North American Company and by these two other holding companies to the subsidiaries over a long period of years, for the purpose of enabling those companies to carry out construction programs without having to go to the public for financing, or to enable them to refinance or do original financing at times when the market was propitious.

The advances by the holding company particularly avoided the necessity of going to the market too frequently
8633 for money.

As an example of that, in 1920 and 1921, The North American Company and Wisconsin Edison Company advanced cash to the Milwaukee Electric Railway and Light Company, which was the predecessor of the present Wisconsin Electric Power Company, from month to month, which resulted in a total amount owing by that company to The North American Company of $8,123,000 in May, 1921.

These advances were to enable that company to take care of its construction expenditures, because it could not at that time sell bonds because of a limitation in its mortgage as to
8634 the interest rate on the bonds. It could not at that time sell bonds except at an interest rate of 5 per cent. or less, and it could not have financed on that basis.

In 1921, a new mortgage was authorized by the stockholders, and $5,000,000 of bonds were sold, and the proceeds

were applied in June, 1921, in part payment of the debt to The North American Company, and the remainder of the debt was not paid off until late in 1922.

As another example, in February, 1926, The North American Company advanced $4,000,000 to the Milwaukee Electric

Railway and Light Company, to enable that company to redeem at maturity $6,500,000 principal amount of 5 per cent. consolidated mortgage bonds.

The advance was carried on open account, and was partly paid off in the next few months and finally settled in June, 1926, when the North American Edison Company bought an original issue of $4,000,000 par value of common stock of the Milwaukee Electric Railway and Light Company, and that company deposited the proceeds with The North American Company. 8636

And as another example, early in January, 1931, The North American Company advanced $5,670,000 in cash to the Milwaukee Electric Railway and Light Company to enable that company to redeem at maturity $6,728,000 principal amount of its 4½ per cent. bonds.

This advance is not on the schedule, because it was a short-term advance to enable that company to have the property released from the mortgage so that it could sell a new issue; and the North American's loan to the company was repaid on the 2nd of February, in 1931, from the proceeds of the sale by the Milwaukee Electric Railway and Light 8637 Company of $15,000,000 principal amount of 5 per cent. first

—6,975—

mortgage bonds.

Q. I take it that the entire proceeds were not required for the repayment of the advance, however, is that correct? A. No; but, incidentally, the company might have had some difficulty at that time in borrowing the full requirement, because it had already borrowed $3,300,000 from Wisconsin banks for the purpose of meeting part of the maturities at that time, and that loan of course was also paid off.

8638 *Herbert C. Freeman—By Respondents—Direct*

In 1923, The North American Company advanced cash to Union Electric Company of Illinois to enable that company to construct the Cahokia power plant. Those advances reached a maximum of $12,232,000, on January 31, 1924, and at that time the Union Electric Company of Illinois sold bonds and preferred stock to the public and sold common stock to The North American Company and reduced the debt, its debt to The North American Company, to about $3,200,000.

8639 That debt was not entirely paid off until December, 1924, and at that time it was assumed by Union Electric of Missouri.

Then one of the most important examples of this assistance in the form of advances was during the period from June, 1929 to September, 1931. The North American Company made continuous advances to Union Electric of Missouri, which reached a maximum of $17,180,000 at about the end of that period; in fact, that went over into 1932.

—6,976—

8640 Those advances were to enable the Union Electric Company of Missouri to build the Bagnell dam and the Osage reservoir, and to construct an addition to the Cahokia plant, and to purchase the River Mines plant from the St. Joseph Lead Company.

During that whole period, successive advances were made, which amounted to an aggregate of $48,000,000, which were liquidated from time to time in various ways.

In December, 1929, the Union Electric Company sold bonds to the extent of $14,860,000, and in September, 1930; February, 1931; and June, 1931, the amount of the advances

was reduced by the sale of additional common stock to The North American Company, and that common stock which The North American Company bought and which was applied against the advances amounted in all to $22,500,000; and then the balance of the loan was paid off gradually over the period up to 1935.

Q. There has been some testimony in the record as to services rendered to the various subsidiaries in connection with financing matters. Would you state very briefly the general scope of the type of service which North American 8642
and its personnel has rendered over a period in this type of corporate function? A. Broadly speaking, those services have consisted in discussing the financing requirements of the various companies with the companies, planning the form of financing, deciding whether it should also include the re-

—6,977—

financing of outstanding securities, the question of not only the timing from the point of view of the market but in later years from the point of view of attempting to do the financing within the period for which the audited statements of the companies were available for registration statements, so 8643
as to avoid the expense of interim audits.

Then, in connection with registrations themselves, the North American organization has reviewed and assisted in the preparation of registration statements under the Securities Act, particularly including a review of the financial statements from the point of view of ensuring adequate disclosure and correct statements.

Q. (Interposing) In that connection, Mr. Freeman, what has your own record been in respect to the various regis-

8644 *Herbert C. Freeman—By Respondents—Direct*

tration statements filed by subsidiaries of North American since the passage of the Securities Act? A. Well, after the passage of the Securities Act, the first real financing was that of the Cleveland Company in 1935, and following that, until a very recent date, when my time has been very much taken up on another matter, I assume I have gone carefully over every registration statement and all of the financial statements of the company.

Q. Did I understand you to say that you assume that you
8645 had, or that you actually had? A. Well, I actually have, yes.

—6,978—

Q. And the one financing which you refer to which you did not cover in detail personally was the Cleveland financing in 1940, was it? A. Yes. As to that, I did review some of the statements very briefly, but not in as great detail.

We have also reviewed the mortgage and charter provisions from the point of view of the impact they have on the companies' operations, and we have assisted in the preparation of bank loan agreements.

Q. (Interposing) Now, why is that important? A. Well,
8646 that is important from the point of view of the complexity that has developed in those bank loan agreements, particularly with respect to the long term bank loans.

They have assumed almost the proportion of indentures, although they are still in the type of bank loans.

We have been instrumental in introducing into the various indentures and into the charters as they have been revised from time to time, new ideas, over a long period, such as the adoption of the open-end mortgage, the issuance of bonds in series, and issuance of preferred stock in series,

and the various other improvements in order to make these instruments more adapted to the operation of the company from the practical point of view; and we have seen that those provisions have been revised and brought up to date and, as far as possible simplified from the point of view of their

—6,979—

operation, from time to time.

We have sat in with the representatives of the companies, and in some cases we have to a certain extent headed up the negotiation with bankers, and we have discussed with bankers the formation of the syndicates; we have assisted in arriving at prices and underwriting terms; we have generally organized the closing details; we have taken care of the closing matters; we have reviewed the Stock Exchange listing applications from time to time, and have discussed with the representatives of the Stock Exchange the various agreements and in some cases the fees and other terms of listing. 8648

Those services have occupied the time, a considerable part of the time of a number of the members of the organization: Mr. Fogarty, who has been, I would say, primarily responsible for financing; Mr. Piske, Mr. Hartel—— 8649

Q. (Interposing) Mr. Hartel is the secretary of The North American Company? A. The secretary of the company.

Mr. Van Wyck, who was associated with the organization in New York for a number of years, and has testified as to his work during that time, and since; I have spent a good deal of time on these matters; and Mr. Preger, the comptroller of the company, has reviewed very carefully all of the financial statements.

—6,980—

8650 *Herbert C. Freeman—By Respondents—Direct*

Many of these details that I have mentioned have arisen particularly since the passage of the Securities Act and the Stock Exchange Act.

Prior to the passage of the Securities Act, practically all of the details were handled in New York. At that time, the period of time occupied in the actual closing of the negotiation for financing and the issuance of the securities was generally much less. The consideration of the financing may have extended over a long period, and it may have come up
8651 several times, but finally, when the conditions were right, the preparation of the final papers and the agreements with the bankers were frequently concluded in a short time, and in most cases the bankers' circular was prepared on the basis of information which we obtained from the subsidiaries and put in the proper form for inclusion in the president's letter to the bankers and the bankers' circular.

Subsequent to the passage of the Securities Act, that has still been true, except that the amount of detail that has to be done on the registration statement generally involves a considerable amount of work by the subsidiaries in their
8652 own offices, before the papers are sent on to us for review, and more recently there have been some cases of financing in which the subsidiary companies have taken a more definite and perhaps more complete part in the arrangements and in the final agreements with the bankers. For example, the

preferred stock financing in 1939 and 1940 of the three Wisconsin companies, that is, Wisconsin Electric Power Company, Wisconsin Gas & Electric Company, and Wisconsin Michigan Power Company, were to a large extent dealt

with locally, and local bankers were largely interested in those financings. In fact, the two small companies were handled entirely by local bankers; and in the case of the large company, there was also an underwriting entirely by local bankers, but predicated upon the acceptance of an exchange offer by a substantial percentage of the holders of the old stock.

Q. Well, in these three instances you refer to, were the basic documents also reviewed by North American? A. Yes, they were. 8654

Q. And advice and assistance given in connection with the consummation of the transaction? A. Yes, to a considerable degree.

Q. Now, you spoke of assistance in connection with execution of bank loan agreements. Can you illustrate the point? A. Well, one of the most important of those bank loan agreements was the Wisconsin Electric Power Company loan, in 1938, the details of which were worked out almost entirely by us in New York, with the banks, and the Union of Illinois and Union of Missouri financing in 1937 and 1938, and in those cases there was one short bank loan for the purpose of enabling the outstanding stock, which was then 8655

~~6,082~~

outstanding to the extent of $13,000,000, to be reacquired by the company, and interims sold for an equivalent amount of new stock.

Q. By "interims" you mean interim receipts? A. Interim receipts.

The new stock could not be delivered until the old stock had been reacquired and its characteristics changed, which

8656 *Herbert C. Freeman—By Respondents—Direct*

required a unanimous vote of the stockholders, and for that purpose a short term bank loan was secured.

There was also a $15,000,000 long-term bank loan, which was arranged for in connection with the refinancing of the bonds of the Union Electric of Missouri.

Q. Well now, in addition to the assistance in connection with transactions involving public offering of securities, has North American over a period of many years assisted in the important corporate readjustments and consolidations
8657 involving companies in the North American system? A. Yes, it has.

Q. Will you state—— A. (Interposing) Many of those have involved a considerable amount of work over extended periods.

I can give some examples of that. In the case of the Light & Development Company of St. Louis, in 1923 to 1924, The North American Company, through a wholly-owned subsidiary, the Edison Securities Company, purchased the entire capital stock of the Light & Development Company of St.

—6,983—

8658 Louis, in March, 1923. That company was a holding company which controlled operating properties in Missouri and other states. It was acquired partly for cash and partly by the issue of stock of The North American Company, which was exchanged for the stock of the Light & Development Company of St. Louis and in part for stock of Union Electric Light & Power Company.

In April, 1923, the Light & Development Company sold four of its operating properties in Missouri to the Union Electric Light & Power Company, and after that the Light

8659

& Development Company disposed of certain properties, which we felt were not related to our then operating subsidiaries, located in Ohio, South Dakota, Illinois, Texas and Kentucky.

Then in August, 1924, the Union Electric Light & Power Company acquired the entire capital stock of the Light & Development Company of St. Louis from Edison Securities Company, and the company was dissolved.

Q. I do not know that we have identified Edison Securities Company. What was it? A. It was a wholly-owned subsidiary of The North American Company, which had no organization of its own. It held securities of various kinds from time to time, and one of its important functions was to provide for the realization of cash for stockholders of The North American Company who wanted cash in lieu of their stock dividends. —6,984—

8660

Q. And that company was liquidated at or about what time? A. I believe it was about 1934. I am not positive as to that.

Another example is in connection with the unification of the transportation properties here in Washington, which occurred in December, 1933.

8661

At that time the Washington Railway & Electric Company transferred the ownership of its transportation properties to Capital Transit Company, the new company that was organized at that time, in exchange for a 50 per cent. interest in the capital stock of Capital Transit, and other consideration, including the assumption of certain funded indebtedness.

8662 *Herbert C. Freeman—By Respondents—Direct*

Capital Transit Company, which was organized at that time, also acquired the properties formerly owned by the Capital Traction Company.

Q. I think the details of the transaction may already appear in the record. Would you indicate what part North American played in connection with the transaction? A. Well, the preliminary steps which led up to that extended over quite a long period, and during that time the officers of The North American Company were in constant discus-
8663 sion of the matter with the management of the Washington Company.

—6,985—

It involved an agreement as between the Capital Traction Company and Washington Railway & Electric Company, as to the general basis upon which they would be willing to bring about the unification, and it then involved the securing of a resolution of Congress to permit of the carrying through of the transaction; and thereafter it included the actual working out of the details of the contract and the consideration to be received by the two companies.

8664 It took a great deal of time of all of our executives, more particularly of Mr. Doolittle, who was at that time a vice president of The North American Company; and later I spent a good deal of time on the matter, too.

Then following the unification of the transportation properties in 1933, the Capital Transit Company acquired the capital stock of the Washington Rapid Transit Company, and there again the officers of The North American Company spent a considerable amount of time on the negotiations.

I, myself, did a great deal of work in connection with that.

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Then coming to 1937, in connection with the reorganization of the Illinois subsidiaries of Union Electric Company of Missouri, under which four of those subsidiaries were merged into a fifth subsidiary, which then changed its name to Union Electric Company of Illinois, the present company, all of the outstanding indebtedness and the preferred stocks

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of these companies were retired, and the resulting Union Electric Company of Illinois was refinanced by the issuance of $18,000,000 of its common stock and $22,000,000 of first 8666
mortgage bonds to the Union Electric Company of Missouri, and those securities formed a part of the basis for the bond issue of Union of Missouri in that year.

Q. Well now, in this transaction, did North American again take an active part? A. I should say we took a major part in those discussions.

The Examiner: We will suspend here for just a moment.

(Whereupon, a short recess was taken.)

By Mr. Hamilton: 8667

Q. And in the actual consummation of the transaction? A. Yes, although, of course, the final carrying of it out as to the unification of those Illinois subsidiaries was attended to in St. Louis.

Then in 1938, in connection with the refinancing of the Milwaukee Electric Railway & Light Company, which at that time became the Wisconsin Electric Power Company, that company, the Milwaukee Electric Railway & Light Company, acquired from The North American Company all of

the common stock of the old Wisconsin Electric Power Company, which had been organized to construct the Lakeside plant.

At that time, the Milwaukee Electric Railway & Light

—6,987—

Company transferred its transportation properties and business to a new wholly-owned subsidiary, which it formed, called the Milwaukee Electric Railway & Transport Company.

8669 Q. Here, again, I think the actual detail of the transaction is probably in the record, and I would like to get at the function of North American in the consummation of the transaction. A. Well, that transaction was discussed several times. I have one particular personal recollection of it, because I was away on a vacation and I had to come back to New York for a day to sit in on a discussion of it with the officers of the company, who came to New York, and the working out of the final details consumed a considerable amount of time on the part of Mr. Fogarty, Mr. Piske and myself, in conjunction with the officers of the company.

8670 Q. What was the purpose of that transfer of stock by North American to the then Milwaukee Electric Railway and Light Company? A. It was to improve the financial position and credit of the Milwaukee Electric Railway and Light Company.

Up to that time, the Lakeside plant had been operated by the Milwaukee Electric Railway and Light Company under a lease, and that lease rental, while it was limited to a certain percentage of the return on property of Wisconsin Electric Power Company, actually came ahead of the bond

interest on the bonds of the Milwaukee Electric Railway and Light Company.

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By permitting them to acquire that stock and liquidate the old Wisconsin Electric Power Company, and acquire its property direct, it not only gave them a larger property base on which to issue their new bonds but it removed that prior charge.

Q. Well, did it not, in fact, permit the refinancing of Milwaukee Electric Railway at that time? A. It was the one thing which made that financing possible at that time. 8672

Q. Had not other attempts been made prior to that time to attempt the financing of Milwaukee Electric Railway without the acquisition of the old Wisconsin Electric Power Company? A. There had been various discussions, but——

Q. (Interposing) Had they been successfully worked out? A. No, no plan had been developed which seemed at all practicable. Of course, there are a great many other examples of assistance of that character, but I think those are fairly representative.

Q. Now, has The North American Company, and has it for many years, given its subsidiaries assistance in connection with the establishment of accounting procedures? A. Yes, it has. 8673

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Mr. Preger, our comptroller, has always kept closely in touch with the subsidiary companies, and has passed on to them the benefit of his study of the various accounting classifications and matters of that kind, and results of his discussion with the auditors of the company.

He and I have discussed accounting matters a great deal, and he and I, together, have had numerous discussions with

8674 the accounting officers of the various companies on different matters, both personally and by correspondence.

He keeps in touch with the requirements of the various regulatory commissions and the Stock Exchange and matters of that kind, and passes on the results of his experience and study to the subsidiaries.

As far as possible, of course, we try to bring about uniformity, but obviously a subsidiary is subject to the requirements of its own regulatory commission.

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(Pause for the shifting of reporter.)

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The Witness: In that connection, I should like to emphasize that our policy has consistently been that of requiring full disclosures with respect to our own accounts, and of advising the subsidiary companies along those same lines. We have tried to see, in our review of their finances, that that policy is carried out.

In recent years, the development of the notes that have been attached to financial statements has been quite a marked feature of disclosure, and we have gone over those and discussed them at considerable length, in many cases, with subsidiaries.

8676

I think I mentioned yesterday that it was in furtherance of our policy that the subsidiaries introduced auditor's certificates into their annual reports.

By Mr. Hamilton:

Q. How about inclusion of surplus accounts in the financial statements? A. I was going to speak of that. There had

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been a practice for a great many years among,—I was going to say among companies, generally, of publishing income statements and balance sheets, but not necessarily of surplus accounts. However, we felt that the inclusion of a surplus account was a necessary part of the presentation of accounts to stockholders, and in the case of our own company, that was reflected in the annual report, I think, as early as 1923, and we have recommended to the subsidiaries that they include

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it in their annual reports, and that has been done for a number of years.

Q. Is assistance also given in connection with monthly reports, in connection with the preparation of budgets? A. The assistance in connection with the monthly reports has been largely to the extent of the detail that should be given in the reports and the form of them. The subsidiary companies are making monthly reports which not only give a comparison with the same month of the previous year, but also with the budget, and we have assisted them, to a considerable extent, first, in the preparation of the budget and the manner in which the budget should be prepared, and also in the form of presentation of the results in comparison with the budget.

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Officers of the North American Company have visited the various subsidiaries and discussed their budgets with them before they were adopted, and made various suggestions.

I was speaking, principally, of the operating budget.

There are also the construction budgets, which, of course, have to be looked at from the point of view not only of a formal presentation, but as to what expenditures are to be

authorized, and what can be deferred, what additions—which ones are required to be made to meet the conditions as they arrive, and so on, and the officers of the North American Company have at all times kept in close touch with the subsidiaries on the matter of construction budgets.

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We have also had officers in New York who were Engineers and who could discuss those matters in the terms of engineering language with the officers of the operating
8681 subsidiaries.

Q. Is there an Auditor with the North American Company, and, if so, what does he do? A. The Comptroller is, of course, to some extent, the Auditor, too, of The North American Company as such; but, in addition to that, we have a man who is known as Auditor, whose business it is to organize the internal audit systems of the subsidiary companies where organizations are necessary. Perhaps it is too much to say, organizations; they have all had internal auditing departments, but we felt that there was room for improvement, possibly, in the work they were doing, particu-
8682 larly in the uniformity of the work as among the various companies, and the auditor has made a study of their methods and of the scope of work being done, and has advised with them and visited the offices of all of the operating companies. We believe that the internal audits have been definitely improved and standardized as a result of his work.

There have been meetings of the accounting officers of the various companies to discuss these things as a group; to exchange ideas and to assist one another in formulating the plans and defining the scope of the auditing work, and the

Auditor of the North American Company has attended those

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meetings.

Q. Does North American Company assist in the preparation of Original Cost studies by the subsidiaries where required? A. Yes; our assistance there has been chiefly in the nature of a review of the reports prepared by the Research Department and Accounting Departments of the various companies. Those reports have involved a tremendous amount of work by accountants and engineers and that work has 8684
necessarily had to be done originally by the force of men employed by those companies; but when the classifications have become available, we have discussed that with them, and I know that Mr. Preger and I have sat down and gone over them, and the Accounting Department has advised them as to the treatment of different items, and Mr. Doolittle has also participated in that work in connection with the companies here in Washington, of which he is still a Director.

Q. Now, is assistance also given in such matters as depreciation studies? A. Yes. That has been one of the divisions of the accounting work in which Mr. Preger and I, 8685
particularly, and the present officers of the company, have

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participated. Mr. Doolittle also used to participate in those discussions, and there the work has been along the lines of studying the subject from time to time and discussing it with local commissions and trying, as far as the subject will permit, to reach some degree of uniformity of treatment.

Q. Now, as to matters regarding compliance by the subsidiaries with regulatory statutes, is assistance also given by North American in this respect? A. Yes. In that re-

8686 spect, Mr. Piske and Mr. Hartel have been the officers of North American Company who have devoted the most time to that; that is, the studies of the various laws and regulations issued under those laws,—the requirements of the Federal Power Commission, the Securities and Exchange Commission, and the other regulatory bodies.

This included a study of the Securities Act of 1933 and the regulations under it; the Securities and Exchange Act of 1934, and the Holding Company Act of 1935, and, of course,
8687 it extends not only to registrations, but to such matters as proxy solicitations, and matters of that kind.

The financial connections of Directors are studies, and all the procedure necessary in connection with the acquisition and sale of securities and property and the elimination of subsidiaries and various reports that have to be made, are advised upon. —6,995—

Q. Is assistance similarly given in connection with the review of applications to State Commissions for authority to issue securities? A. Yes. Wherever there is a matter of financing, which, of course, necessarily requires an applica-
8688 tion of that kind, copies are sent to us in New York, and they are reviewed, by several of us in fact, and Mr. Piske and Mr. Hartel particularly, and I also make a practice of reviewing those, but not in as great detail as they do.

Q. Now, I think you referred to services rendered in connection with compliance with the Securities and Exchange Act of 1934. What does that involve? A. Originally, there was the preparation of Form 10, Application for Registration; and following that, the Annual Report Form, which is Form 10-K; the monthly reports on Form 8-K, where there

have been changes in control,—and Annual Reports on Form 1-MD for companies issuing securities registered under the Securities Act, but not under the Exchange Act.

Q. Are their applications in various forms, reviewed by North American? A. Yes, initially it required a great deal of attention, but it has now become more standardized, from year to year, and we are able to review them with the expenditure of less time,—but they are all reviewed.

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Q. In all these matters, has it been the experience of 8690
North American that the subsidiaries rely heavily on North American for this type of assistance? A. Yes, that is a correct statement.

Q. As to certain fiscal matters, has assistance similarly been furnished to subsidiaries, and if so, in what respects? A. Particularly in connection with those subsidiaries which have securities listed on the various stock exchanges, and of course all our major subsidiaries have listed securities.

We review the listing application, the printing of those things I think is required to be done in New York, and we negotiate for that with the printers and attend to it. There 8691
is a certain amount of negotiation required with the various exchanges as to the fee payable.

Q. Does listing on the New York Stock Exchange require agreement on the part of the applicant company with the Exchange? A. Yes. They are quite comprehensive agreements.

Q. Those agreements have been entered into, have they, in the case of North American subsidiaries so listed? A. Yes.

Q. Is assistance given to the subsidiaries in connection with compliance with these agreements? A. Yes. We keep

8692 in touch with the subsidiaries as to the filing of the reports called for by those agreements, notices of corporate action

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on various matters and so on. Mr. Piske and Mr. Hartel have been the officers who have been chiefly attending to those matters.

Q. Again in this respect has it been your experience that the subsidiaries rely heavily on North American for this type of service? A. That is so.

8693 Q. Are there other corporate matters in which North American renders assistance to subsidiaries? A. On a great many matters which might be described as of a secretarial character, Mr. Piske and Mr. Hartel, and some of the other officers of the company, review their proxies, their notices of stockholders meetings, and they have assisted them at various times in working out forms of presentation of their agenda for their meetings,—their minutes their procedure for annual meetings, and various matters of a secretarial character.

8694 These things of course, cannot be entirely uniform, but we do try to give each subsidiary the benefit of the experience of the other companies, and of ourself.

Q. Now, in connection with the operating matters, what assistance is given by North American to the subsidiaries? A. May I revert to one matter in connection with that last question? That is, in connection with the modernization of By-Laws. There, again, uniformity is not entirely prac-

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ticable, but as far as is possible, we try to see that the By-Laws are those best adapted to the operation of the com-

pany, and we have helped them to modernize their By-Laws, from time to time.

Will you repeat the question, please?

(Whereupon the pending question was read by the reporter.)

The Witness: The North American Company has also had certain officers who have been engineers, and who could discuss with the executives of the operating companies matters of an engineering character, con- 8696
struction budgets, matters of that kind, or major projects involving engineering questions,—and so forth. At times, I think some of those projects have been perhaps initiated by the New York officers, but at any rate, they are discussed.

Then, in connection with the relation of the subsidiaries with the local Commissions, the officers of the North American Company have been of assistance in discussing those matters, from the point of view of broad policy.

The rate policies of the subsidiaries have been dis- 8697
cussed constantly by the officers of the North American Company with the subsidiaries.

Q. With what end in view? A. To carry on our policy of the lowest rate consistent with the general situation. I can refer to these things in connection with the personnel who have been chiefly responsible for them.

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Mr. Dame, for example, who was the President of the North American Company from 1921 until 1933,—he was

President at the time of his death, but had, for a short time
8698 been Chairman of the Board of Directors while Mr. Gruhl was President. Mr. Dame was an engineer and an operating man, so that he was particularly qualified to discuss all these major projects, and relations with Commissions, and so on, with the officers of the subsidiaries. Mr. Gruhl, who became Assistant to the President of the company in 1912, and later, Vice-President and General Manager, and was President at the time of his death in January, 1933, was originally a Com-
8699 mission man in Wisconsin.

Q. Do you mean by that associated with the Commission? A. On the staff of the Commission in Wisconsin. He was of very great assistance to the officers of the subsidiaries, in connection with commission regulations and general operating matters. He and Mr. Dame worked very closely, when they were both alive, and practically all of the major projects of the subsidiaries were discussed by the executives with them, that is, by the executives of the subsidiaries.

Of course, during that time Mr. Fogarty was the officer who was primarily interested in matters of financing; Mr.
8700 Doolittle, who is also an engineer, was an officer of the company from 1923 to 1936.

Q. He is now a director of the North American Company?

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A. He is now a director of the North American Company, and also of the Washington companies, Washington Railway & Electric Company, and Potomac Electric Power Company and Capital Transit Company, and he has remained in very close touch with us since 1936, and has assisted on various matters since that time. He paid particular attention to

construction budgets and to a number of these matters of corporate reorganization which I have mentioned, particularly those having to do with these Washington properties, and with the St. Louis properties.

Mr. R. G. Smith was on the staff of the North American Company from 1921 to 1935 and I think he was, for several years, Assistant Vice-President of the company. He had had experience with the Wisconsin Commission and was also an engineer. He was the head of our statistical department, and kept in close touch with the various operating reports 8702
of the subsidiary companies, and generally assisted Mr. Doolittle in his work with the subsidiaries.

Mr. J. B. Black, who is now President of the Pacific Gas & Electric Company, is also an engineer and an operating man. He had been in charge of the operations of the Great Western Power Company, which was a subsidiary of Western Power Corporation, and was President of that company at that time,—excuse me, I am not sure he was President, but he was the chief operating officer of that company at the time we acquired Western Power Corporation, and in 1926 he became Vice-President of the North American Com- 8703
—7,001—
pany.

Q. And acted in that capacity until what date? A. Until 1935,—at the end of 1935. Then Mr. J. D. Mortimer was an engineer and an operating man, and his connection with the North American Company goes back longer than any of the others. He first became associated with the company in 1909 and was President of the Company up to the time of his retirement in 1920, and then he became associated with the company again in 1933 and continued up to 1938.

8704 In those early years, of course, we only had the St. Louis and the Wisconsin companies and he spent a great deal of time actually on the properties. In fact, I believe part of the time he was President of the subsidiary companies, as well as of the North American Company.

More recently, from 1933 to 1938, he was the man to whom we looked for the chief contact with the subsidiaries on operating matters, and he discussed matters of construction budgets and major projects with them.

8705 Then, in 1940, Mr. Ralph Moody, who had been with the Wisconsin group of companies for a great many years, was brought on to New York, and first became Assistant to the President, and later, Vice-President of the company. He is an engineer and an operating man, and can talk to the operating officials of the companies in their own language, and

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understands their problems thoroughly.

Mr. Lindseth, who has testified in this proceeding, was associated with the Cleveland Electric Illuminating Com-
8706 pany for a few years as,—I believe he was called Assistant to the President.

Q. I think his title appeared in the record. Does he assist Mr. Moody? A. In September, 1940, we asked the Cleveland company to release him to us so that he might become assistant to Mr. Moody.

Q. Are the North American Company and its subsidiary holding companies subject to the Uniform Classification of Accounts for holding companies provided by the Securities and Exchange Commission? A. They are.

Q. And do they conform to such classifications of accounts? A. Yes, they do in all respects.

Q. In its entire history, has the North American Company had a service company providing management, construction or other services for compensation? A. No. We have not had a service company of any kind. There was a short period, from the latter part of 1924 to 1928, when we held the stock of an engineering company which performed services for outsiders, and was engaged by one or two of the

—7,003— 8708

subsidiaries of the North American Company to do work for them, but we disposed of that stock in 1928.

Q. Was the issuing of the presently outstanding 5¾% Preferred Stock and presently outstanding Debentures of the North American Company authorized by the Securities and Exchange Commission under the Holding Company Act of 1935? A. The issuance of those securities was authorized in January, 1939, by the Securities and Exchange Commission.

Q. Are you able to state the range of earnings, on a corporate basis, per share, of North American Company over a period of years? A. For the period from 1923 to date, the 8709
earnings per share of North American Common Stock on a corporate basis have been from 93 cents a share to $2.86 per share.

Q. In each case have consolidated earnings been in excess of corporate earnings? A. Yes.

Q. During that entire period? A. Yes.

Q. During this period, have dividends ever been paid on North American stocks in excess of corporate earnings for the particular years? A. No, they have not been; during that

period of years we were paying stock dividends I am and including those on the basis on which they were capitalized, —that is, during part of that period, I should say.

—7,004—

Q. Are you able to state the coverage for 1940 on the outstanding Debentures and Preferred Stocks, of North American Company on a corporate basis? A. The coverage in 1940, and by that I mean the number of times the Debenture interest was earned, was seven times, and the Preferred
8711 Stock dividends were earned more than four and one-half times.

Q. After providing for Debenture interest? A. Yes.

Q. Have all contracts within the holding company system involving the sale of stock by North American or North American Edison to any public utility company in the system been approved by the respective State Commission to which the particular public utility companies were subject. A. They have.

Q. Has the North American Company ever received payment from the public utility subsidiaries for construction
8712 work or for equipment or materials? A. No, it has not.

Q. Has it received payment for services rendered? A. For a period of years, there was an apportionment of the cost of the North American organization under which, on the basis of tests made from time to time, the proportion of the time spent by the various departments on North American

—7,005—

matters purely was applied to the total salary cost of the departments, and the balance representing the time spent by those departments on the affairs of the subsidiaries was

in the aggregate, apportioned among the subsidiaries roughly in proportion to their gross revenues.

Q. Now, when was this arrangement discontinued, if it has been? A. It was discontinued in November, 1935.

In case I have not been sufficiently explicit, I will say that a part of that apportionment represented a part of the salaries of the officers of the North American Company, but as to that, it represented a smaller proportion of their salaries than it did of the salaries of the rest of the organization. 8714

Q. Did the services rendered under the arrangement include such matters as stock transfer and fiscal agency service? A. As to that, there were specific charges made for services as fiscal agent, based, as nearly as could be, on the fees charged by trust companies in New York for similar services, and based upon the volume of securities to which the various work related.

Those charges were not in excess of what the cost would have been if done for the subsidiaries by a trust company.

Q. If you happen to know, does the requirement of the —7,006— 8715

New York Stock Exchange with respect to listing of stocks thereon include a requirement that there be a New York transfer agent? A. There must be a transfer agent located south of some particular street in New York,—I have forgotten which one it is.

Q. To your knowledge, has the North American Company ever prevented a rate reduction by any of its subsidiaries? A. No.

Q. Has it ever attempted, to your knowledge, to force an increase in rates by any of its subsidiaries? A. No, not to

8716 *Herbert C. Freeman—By Respondents—Direct*

my knowledge. I do not believe there ever have been increases in rates, except during the period of the last great war, when some adjustments upwards were made by the various subsidiaries.

Q. Have you any statistics to indicate the relative relationship between the dividends paid by the public utility subsidiaries of the North American Company, over a period of years, to the earnings available for dividends of those companies during those years? A. There has been prepared,
8717 under my direction, figures showing the percentage which the dividends paid have represented of the amount available for dividends during the period of fifteen years from 1925 to 1939 for the four groups of companies which constituted the subsidiaries of the North American Company during that

—7,007—

period.

Q. These groups being what? A. Wisconsin-Michigan group, Missouri-Illinois-Iowa group, the Ohio group and the Washington, D. C. group.

Q. By the "Missouri-Illinois-Iowa group", are you refer-
8718 ring to Union Electric Company and subsidiaries? A. And the St. Louis County Gas Company. A. And what do those statistics disclose? A. They show that during the fifteen-year period from 1925 to 1939, the Wisconsin-Michigan group paid, as dividends on Common Stock, 76.17 per cent. of the earnings available for dividends; that the Missouri-Illinois-Iowa companies paid 76.09 per cent. of the earnings available; that the Cleveland Electric Illuminating Company paid 65.78 per cent., and the Washington companies paid 58.17 per cent. The average for these four groups is 69.05 per cent.

Q. Is that an arithmetical average? A. That is a an arithmetical.

Q. Have you data on the same subject matter with respect to the record of other public utility companies not subsidiaries of the North American Company? A. I have had data prepared from the manuals for eight independent companies.

Q. What manuals do you refer to? A. Poor's Manuals of Utilities. The eight companies are the Hartford Electric

—7,008— 8720

Light Company——

Mr. Binford: (Interposing) Mr. Examiner, I object to any statement as to dividend policies of utility companies not involved in this proceeding as being wholly irrelevant and immaterial.

We have no evidence of their performance and a full investigation of the conditions existing with respect to such companies, I think would prolong a hearing of this sort indefinitely, and beyond the physical possibility of completion. 8721

The Examiner: Doesn't this objection go to the same point you raised against the four sheets embraced in Respondents' Exhibit No. 124?

Mr. Binford: Yes, it does.

Mr. Hamilton: May I make a few remarks on that?

The Examiner: You may.

Mr. Hamilton: I believe the evidence is entirely relevant for a number of reasons: For one reason, it shows a contrast in dividend policies between companies which are generally acknowledged to be so-

8722 called leading independents and the dividend policies in this particular holding company system. It therefore is relevant as showing the conservative nature with which the enterprise constituting the North American system has been conducted. It is relevant as showing, by inference, at least, that the North American Company has not adversely, as a holding company, obstructed the dividend policies of its sub-

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8723 sidiaries. The information is stated to be over a period of fifteen years, and to be based in the case of the so-called independents, on published financial statements and is therefore the best evidence, under the circumstances, from which any inference as to the conduct of the North American business, favorable or otherwise, may be arrived.

The Examiner: I don't understand that he is objecting to the source.

Mr. Hamilton: That is right. It bears again on the relevancy as providing a basis of comparison and

8724 the fairness of comparison.

Mr. Binford: Mr. Examiner, in accepting this type of testimony, we would, in effect, be recognizing these companies selected by the respondent, I suppose with considerable care, as standards by which to judge the fairness and policy of North American and its efficiency, and I believe that could not be done without a great deal of evidence as to these companies and the peculiarities of their individual situations which might affect their efficiency or their rates.

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I insist on the objection.

Mr. Hamilton: May I also point out that, in general, that type of comparison has been used by the Federal Power Commission, I don't say necessarily with respect to dividend matters, but certainly with respect to operating policies and costs, where the report of one company might be compared with the

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reports of a number of certain other holding companies.

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Mr. Binford: I think that the principle is right, generally speaking, but this happens to be a proceeding with relation to a particular system.

Mr. Hamilton: If I am correct, the Commission, itself, has used a somewhat similar basis of comparison in not dissimilar cases.

The Examiner: Off the record.

(Discussion off the record.)

The Examiner: I suggest that you proceed with your line of examination, and then, if Mr. Binford desires, he can move to strike, and I will dispose of the question later on, both as to the admissibility of this testimony and the four sheets from Respondents' Exhibit No. 124.

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Mr. Binford: I have no objection to that procedure, understanding from counsel that this will not be an extended line of testimony consuming a great deal of time, and that, as the Examiner stated, I shall have a right to move to strike the testimony at the conclusion thereof.

8728 *Herbert C. Freeman—By Respondents—Direct*

The Examiner: All right. I understand the testimony will take about five minutes, so you may proceed.

Mr. Hamilton: Will the reporter read the pending question?

(Whereupon, the pending question was read by the reporter.)

—7,011—

The Witness: Hartford Electric Light Company,
8729 Commonwealth Edison Company, The Detroit Edison Company, Public Service of Northern Illinois, Boston Edison Company, Consolidated Gas, Electric Light & Power Company of Baltimore, Pacific Gas & Electric Company, and Southern California Edison Company.

By Mr. Hamilton:

Q. Now, what do these data disclose? A. These data disclose that for that group of eight companies, the average for the entire group of the percentage of dividends paid on Common Stock of the earnings available for dividends dur-
8730 ing the fifteen-year period from 1925 to 1939 was 77.73 per cent., as compared with the 69.05 per cent. for the four North American groups.

It also shows that the average for the North American groups is lower than seven out of the eight independent companies and higher than only one, the Public Service of Northern Illinois, and that each of the four groups of the North American subsidiaries shows a lower percentage than the average for the eight independent companies.

Q. Now, I notice that you have included in your group of eight companies, Detroit Edison and Pacific Gas & Elec-

tric Company. If those companies were excluded from the computation, what would be the effect upon the averages given? A. The effect would be to increase the percentage of

—7,012—

dividends shown by the average for the remaining six independent companies.

In other words, the percentage for the Detroit Edison Company and for the Pacific Gas & Electric Company is lower than the average of the percentage for the entire eight companies, so that the comparison would be more in favor 8732
of the North American groups.

Q. Do the depreciation policies pursued during this period have a bearing on the amount of earnings shown to be available for dividends? A. The amounts of depreciation taken necessarily had a bearing on the amount available for dividends.

Q. Can you state the relative figures on depreciation with respect to the two distinct groups which you have referred to during the period?

Mr. Binford: Mr. Examiner, it is understood, I presume, that the same objection applies to all questions and answers along this line of interrogation,— 8733
that is to say, other companies not included in this proceeding, and questions as to their policies.

Mr. Hamilton: I think that is understood.

Mr. Binford: And I will make the same objection and move to strike.

The Examiner: I think that is understood.

The Witness: With respect to depreciation, the percentage of gross earnings of the four North Amer-

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8734 *Herbert C. Freeman—By Respondents—Direct*

ican groups on a consolidated basis for the fifteen-year period from 1925 to 1939, inclusive, is 11.76 per cent. of the gross earnings; the average for the eight independent companies for that same period is 10.55 per cent. For the year 1939, alone, the percentage for the North American group, on a consolidated basis, is 12.57 per cent. of gross revenue, and—the average percentage for the independent companies, is 11.86 per cent. of the gross revenue.

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Q. Now, again, if you will, if Detroit Edison and Pacific Gas & Electric Company were excluded from the so-called independent groups, in arriving at your depreciation, what effect would that exclusion have on the figure you have already mentioned? A. The effect, both as to the fifteen-year period, and as to the year 1939 would be to improve the comparison from the point of view of the North American group of subsidiaries. The percentage charged by both Detroit Edison and by Pacific Gas & Electric Company is higher than the average for the group of eight independent

8736 companies.

Mr. Binford: Mr. Examiner, I understand that that concludes that particular line of questioning to which objection has been made, and I therefore move, at this time, to strike all questions and answers, since my last objection, in so far as the same relate to the data concerning companies not a party to this pro-

—7,014—

ceeding, upon the same grounds as those stated before in the objection.

The Examiner: Very well, I will reserve ruling on this motion and will dispose of it at the time I dispose of your objections to the admissibility of the four sheets embraced in Respondents' Exhibit No. 124.

Mr. Hamilton: Please mark this series of tables consisting of four sheets for identification as Respondents' Exhibit No. 127.

(The document referred to was marked for identification as Respondents' Exhibit No. 127.) 8738

By Mr. Hamilton:

Q. Please state what this exhibit represents, Mr. Freeman. A. This exhibit represents a statement of the capital structure of the utility operating subsidiaries, and of North American Light & Power Company and Washington Railway & Electric Company, intermediate holding companys, as of December 31, 1940, showing the respective amounts of capital of each class and of surplus, the percentage which each bears to the total capital and surplus, and the part or stated value of each class of capitalization owned by the North American Company, and the percentage which that ownership represents of the total capital of each of the operating subsidiaries. 8739

Q. Has this exhibit been prepared under your direction, —7,015— and have the facts shown therein been taken from the books and records of the company? A. That is correct.

Mr. Hamilton: I offered this exhibit in evidence as Respondents' Exhibit No. 127.

Mr. Binford: I would like to ask a question or two, if I may.

8740 *Colloquy*

Mr. Freeman, this exhibit covers only utility operating subsidiaries?

The Witness: Except that it does include North American Light & Power Company and Washington Railway & Electric Company, which are intermediate holding companies.

Mr. Binford: It also appears to include the Milwaukee Electric Railway & Transport Company, which is not a public utility within the meaning of the

8741 Public Utility Holding Company Act?

The Witness: That is correct. We treat it as a utility, since it is in the street railway business. As to Washington Railway & Electric Company, the percentages of that company's ownership in the securities of its subsidiary companies are shown, and as to North American Light & Power Company, the percentages of that company's ownership in the securities of its operating subsidiaries, and Illinois Traction Company's investment in its operating subsidiaries are also shown.

8742 Mr. Binford: I have no objection.

—7,016—

The Examiner: Very well, the table is received as Respondents' Exhibit No. 127.

(Respondents' Exhibit No. 127 was received in evidence.)

Mr. Hamilton: Please mark this as Respondents' Exhibit No. 128, for identification.

(The document referred to was marked for identification as Respondents' Exhibit No. 128.)

By Mr. Hamilton:

Q. Please state what this table represents, Mr. Freeman? A. The table represents an analysis of the consolidated balance for common dividends and surplus by operating subsidiary companies for the ten-year period from 1930 to 1939, inclusive, showing annual deviations from the ten-year average figures. The table is brought down to the balance for common dividends and surplus, but it shows, at intermediate totals, the consolidated earnings available for interest 8744
charges and dividends of the North American Company and North American Edison Company, and also the consolidated and the corporate balances available on other bases,—that is, for interest charges and dividends and also for common dividends and surplus.

Q. Has this exhibit similarly been prepared under your direction, and have the facts shown therein been taken from the records of the company? A. They have.

Mr. Hamilton: I offer the exhibit in evidence as

—7,016a—

Respondents' Exhibit No. 128. 8745

Mr. Binford: No objection.

The Examiner: It is admitted under the number mentioned.

(Respondents' Exhibit No. 128 was received in evidence.)

Mr. Hamilton: Please mark this graph, for identification, as Respondents' Exhibit No. 129.

(The document referred to was marked for identification as Respondents' Exhibit No. 129.)

8746 *Herbert C. Freeman—By Respondents—Direct*

By Mr. Hamilton:

Q. Mr. Freeman, does this graph, Respondents' Exhibit No. 129 for identification, express in graphic form the information set forth in the table, Respondents' Exhibit No. 128? A. It does, as to the items that are described in that table as "Balance for Common Dividends and Surplus of Subsidiary Companies"; and also as to the items in this table described as "Total Consolidated Earnings Available for
8747 Interest Charges and Dividends of the North American Company and North American Edison Company".

Q. I note a line appearing somewhat below the center of the graph marked "O".

What is the relative relationship of that line to the other lines shown on the graph? A. The lines on the graph are plotted in such a way as to show the percentage deviation from the ten-year average in each of the ten years indicated

—7,017—

on the graph, and the "O" line marks the division between the point of excess over the average and of deficiency under
8748 the average.

Q. In each case, then, it represents the ten-year average to which all other lines are related? A. That is true.

Mr. Hamilton: I offer the graph in evidence as Respondents' Exhibit No. 129.

Mr. Binford: No objection.

The Examiner: All right, it is so admitted.

(Respondents' Exhibit No. 129 received in evidence.)

By Mr. Hamilton:

Q. Will you state the significance of Exhibits 128 and 129? A. The exhibits show that the fluctuation in the income available for the security holders of North American Company over this ten-year period has been less than the fluctuation in the balances available for the Common Stock of the companies in the North American system, taken in the aggregate; by that I mean that the arithmetical average of the variations in the balance available for common dividends and surplus of the subsidiaries has shown wider variations 8750
than the variations in the balance available for security holders of the North American Companies and North American Edison on a consolidated basis; and, that the variations in the individual companies have been greater than the

—7,018—

variations in the balances available for security holders of the North American Company and of North American Edison Company, in a majority of the years covered in the graph and in the estimate.

Expressing that in figures, the statement shows that the 8751
arithmetical average of the deviations of the seven subsidiary companies for the ten-year period has been 26.02 per cent.; while the average deviations in the consolidated balance available for interest and dividends of the North American Company and North American Edison Company combined, has been only 16.54 per cent., and that the number of companies which show a wider variation than the average shown by the balance available for interest and dividend of North American and North American Edison Company is 4 and the number showing a smaller deviation is 3.

8752 *Herbert C. Freeman—By Respondents—Direct*

Now, as to the maximum variations during the period, in excess of the average, the arithmetical average for the seven companies is 58.88 per cent., while the maximum deviations in excess of the average is only 46.50 per cent. in the case of the consolidated balance available for dividend and interest of North American and North American Edison Company combined.

As to the deviations below the average, I am speaking now of maximum deviation, the arithmetical average for the
8753 seven companies is 42.62 per cent., which compares with only 26.35 per cent. in the case of the consolidated balance available for interest and dividends of the North American

—7,019—

Company and North American Edison Company combined.

The number of companies which show a wider deviation than the North American and North American Edison Company combined, on the high side is only three, as against four which show a smaller deviation on the high side.

Now, on the other hand, the number of companies which show a wider deviation on the low side is five as against only
8754 two companies which show a smaller deviation on the low side, as compared with the deviation shown by the North American Company and North American Edison Company combined.

Q. In order to clarify the basis of the consolidation, during what period is, or has been Washington Railway & Electric Company, and subsidiaries, consolidated in the account of North American Company. A. Washington Railway & Electric Company was excluded from the consolidation in the accounts for the year 1939, but for the purpose of this table

it has been included. The reason for its exclusion was that in 1939 our percentage of voting control dropped below, slightly below, 50 per cent., but nevertheless we still held substantially more than 75 per cent. of the common stock at that time.

Q. Now, as to North American Light & Power Company, was it included in the consolidation during the period? A. No, we have excluded North American Light & Power from

—7,020—

this figure for 1939, as that is the only year during this period 8756
in which it was consolidated, as, up to that time, we had not had more than 75 per cent. of the common stock.

Q. Actually, it is excluded for the entire period of ten years? A. That is true.

(Discussion off the record.)

By Mr. Hamilton:

Q. Mr. Freeman, have certain companies named as parties in this proceeding been dissolved, or otherwise disposed of, prior to the commencement of the proceeding? A. Prior 8757
to or subsequent to?

Q. Prior and subsequent to the commencement of the proceeding. A. There are eleven such companies.

Q. Now, has Washington & Glen Echo Railroad Company been dissolved, and if so, at what date? A. That company was dissolved on February 23, 1939.

Q. Has St. Louis & East St. Louis Electric Railway Company been dissolved, and if so, at what time? A. It was dissolved in July, 1939.

8758 *Herbert C. Freeman—By Respondents—Direct*

Q. And similarly, have St. Charles Electric Light & Power Company, Lakeside Light and Power Company, and Chicago & Illinois Valley Railroad Company been dissolved? A. Those three companies were dissolved, the first two in

—7,021—

November, 1940, and the third in April, 1941.

Q. Mr. Van Wyck, I believe, has previously testified as to the dissolution of four subsidiaries of Illinois-Iowa Power Company, so I won't ask you questions with respect to those

8759 companies.

Have Wired Radio, Inc., and Wired Rediffusion Developments, Ltd., ceased to be subsidiaries of North American Company, and if so, under what circumstances? A. Those companies ceased to be subsidiaries of the North American Company on April 1, 1940, when the stocks of Wired Radio, Inc. were delivered to Associated Music Publishers, Inc., which, at that time, was not a subsidiary of the North American Company——

Q. And is not now? A. And is not now a subsidiary—in accordance with the contract to deliver the stock.

8760 Q. At that time, North American parted with its ownership, did it, of the stock of Wired Radio, Inc.? A. Of Wired Radio, Inc., and Wired Radio owned the stock of Wired Rediffusion Developments, Ltd.

Q. Has Wisconsin General Railway ceased to be a subsidiary in the North American Company since the institution of these proceedings, and if so, at what date and under what circumstances.

The Witness: Off the record, please.

—7,022—

(Discussion off the record.)

8761

The Witness: Wisconsin General Railway ceased to be a subsidiary of the North American Company on September 25, 1940, when its assets were transferred to its parent company, Wisconsin Electric Power Company.

By Mr. Hamilton:

Q. And is the stock of Wisconsin General Railway, as so representing an interest in this corporate shell still held by Wisconsin Electric Power Company? A. No, the stock of this company has been sold for a nominal consideration to a private individual who is not affiliated with the North American Company.

8762

Mr. Hamilton: May the record show that I have here handed to Commission's counsel certified copies of certificates of dissolution of all companies which have been referred to in Mr. Freeman's testimony as having been dissolved, and including, in addition, the four subsidiaries of Illinois-Iowa Power Company, as to which Mr. Van Wyck testified, and which are,— Bloomington & Normal Railway, Electric & Heating Company; The Brighton Electric Light and Power Company; The Decatur Light, Heat and Power Company; and The Elkhart Electric Light Co.

8763

Certified copies of certificates of dissolution of all these companies are so exhibited with the exception of Chicago & Illinois Valley Railroad Company, which, according to Mr. Freeman's testimony, was dissolved

8764 *Herbert C. Freeman—By Respondents—Direct*

in April, of this year, and for which, at this date, we have been unable as yet to secure a certified copy.

I see no point in burdening the record with these documents and I ask that the record may show that they have been examined.

May I also add, that in the case of Washington & Glen Echo Railroad Company, the evidence of dissolution offered, or rather, exhibited, is a letter from the Maryland State Tax Commission, presented in
8765 photostat form, stating, among other things, that the charter of that company was forfeited on February 23, 1939, for nonpayment of taxes.

The Examiner: Off the record.

(Discussion off the record.)

By Mr. Hamilton:

Q. Now, Mr. Freeman, what are the policies of the North American Company with respect to the operation of its holding company system? A. I believe, if I were to sum-
8766 marize those policies briefly, at this time, I would say that they were to build up a relatively few sound, well-organized and most efficiently operated public utility subsidiaries which would, and could, render the most efficient service at the lowest cost to the consumer, consistent with an adequate return on the capital invested; to make each one of those companies a part of its own community, with the most local-

ized management possible; to make each one of those companies a sound financial structure with protection for all classes of its security holders, and with adequate information

to those security holders on the operations of the company; to maintain full cooperation at all times with the local state regulatory commissions; to increase and develop the public use of and benefit from the services rendered by those subsidiary companies; to make sound long-time investments, with proper regard to geographical diversification for the North American Company, itself, and thereby to achieve soundness and stability for the security holders of the North American Company.

Now, those policies have been in force for a great number 8768
of years. I testified that I joined the North American Company in 1927 and those policies were in force for many years before that time, and, it is as a result of those policies that we have achieved the outstanding character of the utility subsidiaries of the company, and the outstanding services which they have rendered to the communities they serve.

Q. Are the public utility subsidiaries of North American going to need financial and financing aid in the future?

Mr. Binford: That is objected to as calling for a guess or a conclusion from the witness. 8769

By Mr. Hamilton:

—7,025—

Q. From your knowledge, Mr. Freeman, as to the present operations, past developments and from your own knowledge as to prospects for future improvement, and having in mind the development of the art and state of the art, are you able to answer the question? A. I can say, confidently, that that will be the case. I think it is proper to draw conclusions from the experience of the past several years.

8770 *Herbert C. Freeman—By Respondents—Direct*

At the present time, we are following somewhat the same pattern that was followed during the last war. There is a considerable increase in the demand for electric power and that is certain to call for investment of additional capital in the operating companies, but beyond that, the experience following the last war was that the requirements for capital to take care of the extraordinary increase in the demand for electric service over the decade following the war were very great. In the case of certain of our companies, the gross
8771 revenues over the ten years period following the war increased from two to three times, and having in view the fact that it has required, on the average, about $5.00 of invested capital for every dollar of gross revenue, and that that ratio shows a tendency to increase, due to lower rates and to greater refinements of services demanded by the public, I think it is inevitable that all the companies will need very substantial amounts of capital within the next decade.

—7,026—

Mr. Hamilton: That is all I have of Mr. Freeman, at this time.

8772 Mr. Binford: In view of the limited nature of Mr. Freeman's statement, I will not insist upon my objection.

The Examiner: Very well.

We will recess until three o'clock this afternoon.

(Whereupon, at 1:00 o'clock, p. m., the hearing in the above entitled matter was recessed until 3:00 o'clock p. m. that same day.)

—7,027—

AFTERNOON SESSION

The Examiner: You may proceed, Mr. Hamilton.

Mr. Hamilton: I would like to submit, at this time, to the Examiner, a motion on behalf of the North American Company to dismiss certain parties to this proceeding, on the basis of the evidence heretofore introduced, and, with your permission, we will file an appropriate number of copies with you, at this time.

The Examiner: Very well. I will reserve the 8774
matter for the action of the Commission on this motion.

(The documents in question were handed to the Examiner.)

Mr. Hamilton: I would like, also, if I may, to ask Mr. Freeman one or two more questions.

The Examiner: All right.

Whereupon HERBERT C. FREEMAN, a witness having been previously sworn, resumed the stand and testified further as follows: 8775

Direct Examination by Mr. Hamilton (Resumed):

Q. Mr. Freeman, is the North American Company engaged in the business of sending, or transporting, or causing to be sent, or transported, goods, merchandise, or services in commerce with foreign nations or among the several states, or any other kind of interstate commerce? A. No.

—7,028—

Q. What use of the mails, or other instrumentalities of interstate commerce, does North American Company make?

8776 *Herbert C. Freeman—By Respondents—Direct*

A. It makes use of the mails incidental to the business of a holding company.

Q. And what is its business as a holding company? A. The business of investing in, owning and holding securities.

Mr. Hamilton. Please mark this exhibit, consisting of four sheets, for identification as Respondents' Exhibit No. 130.

8777 (The document referred to was marked for identification as Respondents' Exhibit No. 130.)

By Mr. Hamilton:

Q. What does this exhibit represent? A. The exhibit consists of a list of offerings of securities to the public through bankers, and to institutional investors from September 14, 1920, to January 18, 1933, the date of the last such offering prior to the passage of the Securities Act of 1933; also a list of offerings of securities to the public through bankers and to institutional investors from July, 1935, the date of the
8778 first offering subsequent to the passage of the Securities Act of 1933,—to date.

Q. I notice certain abbreviations appearing on the exhibit, such as "N. Y. S. E.". Will you state what those abbreviations refer to? A. That abbreviation appears under

the head of "Stock Exchange Listing", and it means that those securities are listed on the New York Stock Exchange.

Q. Has this exhibit been prepared under your direction, and have the facts shown been taken from the records of the

company? A. It has been prepared under my direction, and the information in it is derived from the records in the possession of the company. This relates to offerings of securities by the subsidiary companies.

Q. Does it include, for example, offerings by such intermediate holding companies as North American Edison Company and North American Light & Power Company? A. It does not include them.

Mr. Hamilton: I will offer that in evidence as Respondents' Exhibit No. 130. 8780

Mr. Binford: No objection.

The Examiner: The exhibit is so admitted in evidence.

(Respondents' Exhibit No. 130 was received in evidence.)

Cross Examination by Mr. Binford:

Q. Mr. Freeman, in what capacity did you first become associated with the North American Company? A. As Vice-President, and I became a Director and member of the Executive Committee at about the same time. 8781

—7,030—

Q. That was about April, 1927? A. I actually took up my position, I think, about the first of July, 1927. I may have been elected in April.

Q. Prior to your association with the North American Company, had you ever been associated with, or employed by, a public utility holding company? A. Only in the capacity of a public accountant; I had never been employed actually, as a staff employee of any holding company.

8782 *Herbert C. Freeman—By Respondents—Cross*

Q. In other words, such work as you had done in this connection had been as a public accountant and employed for a particular job, is that it, rather than in a continuous position. A. That is so.

Q. Had you specialized in holding company or public utility accounting? A. No, my public accounting experience was of a general, broad character.

Q. I understood that from April 1921, until you became associated with the North American Company, you were con-
8783 nected with the National Cloak & Suit Company? A. That is true.

Q. Your work with that company was of an accounting nature, as well as of an executive nature? A. No, it was entirely in an executive capacity. The accounts were under

—7,031—

the Comptroller or the Treasurer of the company; I had very little contact with it,—just as the other executives did.

Q. Did you have experience in the flotation of security issues in connection with your work with the National Cloak & Suit Company? A. I don't believe there were any issues
8784 of that company while I was an executive of the company. I had had contact with certain security issues for that company as a public accountant. That company was a client of my firm.

Q. Prior to your association with the North American Company, had you actively participated in any other than an accounting capacity in the negotiation or flotation of any security issues? A. No, but of course my connection with security issues, as an accountant, had brought me very directly into contact, not only with the contracts involved,

but with the bankers, and I participated in a very great number of discussions with regard to statements and prospectuses and matters of that kind.

Q. Had you had experience in the preparation of documents in connection with financing to be submitted for the approval or examination of state security commissions prior to your connection with the North American Company? A. No, I had given testimony that was used in at least one case

before a State Commission, but I do not recall that I was 8786
ever engaged in the preparation of documents to be filed with a Commission.

Q. Well, you did not practice before any State Corporation Commissions, or Commissions exercising any regulatory jurisdiction over security issues, did you? A. No, sir.

Q. What, in general,—what was the scope of your duties when you first entered the North American organization as Vice-President? A. I became involved at once in the general activities of the company; I had no duties specifically allocated to me. All of us worked pretty much as a team 8787
there, and one was apt to be called in on almost any matter that came up.

It is fair to say that on account of my previous experience, I was engaged more in finance and accounting matters and very little in operating matters.

Q. The Comptroller, for instance, would come more nearly into your jurisdiction than the engineering department, if there had been one at that time, isn't that true? A. Yes, I think that is so. When you say "jurisdiction", I had no actual authority with respect to the Comptroller,—the

8788 Comptroller is a fairly independent officer, but in discussing accounting matters, he would, perhaps more naturally discuss them with me.

—7,033—

Q. But there was no division, as among officers, of particular categories of the work of the company, is that true, as between the President and yourself, let us say. A. Well, there were certain natural divisions which resulted from the men's previous qualifications. Matters that had to do with
8789 operating or engineering questions would more naturally have been taken up with the President, Mr. Dame, who was an engineer, and Mr. Doolittle, Vice-President, who was an engineer. My contact with matters of that kind, particularly at the outset, would be quite incidental.

Q. I believe you testified that you familiarized yourself with the purposes for which North American Company was formed, and with its activities prior to the time you became connected with it, through its records, and possibly other sources, after you became connected with the company,—that is true, is not not? A. That is true.

8790 Q. Mr. Dame became President in 1921, did he? A. Yes.

Q. Whom did he succeed as President of the North American Company? A. I think he directly succeeded Mr. Mortimer, or Mr. Wetmore, I am not quite certain as to which of those two he succeeded.

Q. Was there any change in the personnel of the Board

—7,034—

of Directors of the North American Company in 1920 or 1921? A. In 1921 there was a very substantial change in the composition of the Board of Directors.

Q. Will you state what that substantial change was? A. My recollection is that Mr. Harrison Williams, Mr. Dame, I believe Mr. Anson W. Burchard, and Mr. Wells, became directors at that time. I don't recall what other changes there were.

I can furnish you with the details of that change, or those changes, if you wish, later.

Q. Would it be correct to say that there was a change at that time of the dominant personnel of the directorate and management, or of the directorate, anyway? A. Yes, I think 8792 that is so.

Q. The gentlemen whom you named as having become members of the board at that time were newcomers to the system, were they not? A. Yes, they were.

Q. From your examination of the records of the company, and your inquiries into its history prior to your connection with it, are you able to state whether any changes of policy became effective after such change of control? A. I doubt if there was any really essential change in policy. What change there was probably related more to the building up 8793 of the local administration and management of the com-

panies. Prior to that time, and at that time, of course, there were only two groups of companies involved, the St. Louis group and the Wisconsin group, and the chief executive officers of the North American Company had spent a good deal of time on the properties, and the properties were, to a much greater extent, managed by them than they were subsequent to that date.

8794 *Herbert C. Freeman—By Respondents—Cross*

Mr. Dame's policy was rather one of decentralization and of increasing the importance of the local administration.

Q. It was also a program of expansion, was it not, and the acquisition of new operating properties? A. There were acquisitions, following that date; I should say that they did represent a policy of further diversifying the interests of the company.

Q. Or, in other words, not confining the interest of the company to two general geographical areas in which it had
8795 theretofore operated? A. That is true.

Q. Do you know what the number of the personnel of the North American Company was in 1920 or 1921, roughly? A. I haven't any idea.

Q. I believe you testified that at the present time there are eight officers and two assistant officers and ninety-nine employees. A. Yes.

—7,036—

Q. Could you say whether in 1920 and 1921 the personnel was larger than that, or smaller? A. I don't actually know,
8796 but my belief is that it was probably smaller. After all, the number of companies involved was smaller and I know of no reason why there should have had a very large organization in proportion to the extent of the investment.

Q. Now, since 1921, has there been any change of personnel of the Board of Directors within any one short period comparable to the change of which we have spoken? A. No, nothing comparable to that change. The changes since then, have, in several cases, resulted from the death or retirement of individuals, the most definite change, I would say, has resulted from some of the implications of the Holding Com-

pany Act, but even so, it did not result in any such change in the Board as would represent a major change,—it was just related to certain individuals.

Q. There has been nothing in that connection which you characterize as a change of control? A. No, not of that class.

Q. Or the personnel of the control? A. No.

Q. Now, the gentlemen who came upon the Board of North American Company in 1920 and 1921 for the first time had not been active in the operation of public utilities, had 8798
they, or do you know? A. Yes. Mr. Dame certainly had been

—7,037—

active in the operation of public utilities. Mr. Williams had been active rather in the holding company end, and not in the direct operations of utilities.

The others who came on at that time were men engaged in general business activities.

Q. And with the exception of Mr. Dame, they have not been engaged in the actual operation of utilities, that is, to the extent of any major portion of their time being devoted to such an activity? A. It is my recollection that is so. I 8799
don't know that I have told you all of the changes, I don't think I have, but I don't remember any others who would be regarded as operating men, although, now that I come to think of it, Mr. Robert Lindsay became a director at some time, it was in the early 20's, and he was, of course, an operating man,—he was President of the Cleveland company.

Q. You have spoken of certain so-called investments of the North American Company, including some investments in the Pacific Gas & Electric Company.

8800 *Herbert C. Freeman—By Respondents—Cross*

Could you state, briefly and rather roughly, just what the service area of Pacific Gas & Electric Company is? A. It extends from the,—at the present time,—from, I think, Eureka, which is the most northerly part on the Coast in

—7,038—

California, and that would be north central California, and the southern extremity in southern central California, would be about Bakersfield.

Q. Is that in Santa Barbara County? A. I can't tell you
8801 what county, but about Fresno, Bakersfield, Merced, and so forth,—in the south central portion.

Q. Are the activities of that company, as a public utility company, confined to the State of California? A. Entirely.

Q. How far distant are the nearest portions of the territory served by it to the nearest point in the service area of any other company of the North American Company system —approximately? A. The nearest point would, of course, be the western extremity of the Kansas Power & Light properties, and I judge that is about 1,200 or perhaps 1,400 miles.

Q. There is, of course, no connection of any kind between
8802 the physical facilities of Pacific Gas & Electric Company, and that of any other company of the North American System? A. No.

Q. And in the case of Detroit Edison Company, that service area is not contiguous to the service area of any other company in the North American system? A. Not actually

—7,039—

contiguous; of course we have properties in the State of Michigan, but in the northwestern area.

Q. Northwestern, and distinguished from the southern? A. Yes.

Q. There are no transmission lines owned by any of the North American subsidiary companies which connect with any of the electric utility facilities of the Detroit Edison Company, are there? A. No, there are not.

Q. Nor do any of its transmission lines connect with any generating station of any other subsidiaries of the North American Company? A. No, sir.

Q. The utility operations of that company, namely, the Detroit Edison Company, are confined to the State of Michigan, are they not, and to the lower peninsula of that 8804
state? A. I believe that is so. I don't know whether they transmit any power across the state line or not.

Q. Do you know, approximately, the size of the Detroit Edison Company, as indicated by its book assets? A. The property and plant are about $325,000,000, I believe,—$329,000,000; its total assets are $363,500,000.

Q. Do you have similar figures with respect to the Pacific Gas & Electric Company? A. They are approximately $700,000,000.

—7,040—

Q. That figure represents—— A. (Interposing) Prop- 8805
erty and plant, approximately $742,000,000, and the total assets are $790,000,000.

Q. You spoke of the Sixty Broadway corporation. Approximately how much of the space in this building is occupied by the North American Company? A. There are two complete floors, and parts of three other floors, and the building, in all, has twenty-five floors.

Q. Except for the small proportion of space in this building which is vacant, the remainder not occupied by the North

American Company is occupied by persons not affiliated with the North American Company, is that true? A. That is true. May I qualify that? Are you using "affiliated" in a technical sense, or as I would use it?

Q. I don't know how you would use it, but suppose I am using it in a technical sense. A. By that I mean,—part of the building is occupied by companies who may, I believe, own more than 5 per cent. of the stock of the North American Company,—I am not quite sure as to that.

8807 Q. That is, who may, in the aggregate, own more than that. A. Yes.

Q. Would you name those companies, please? A. That would be Central States Electric Corporation, American

Cities Power & Light Corporation, and Blue Ridge Corporation.

Q. Does Mr. Williams also have an office in that building,—individually? A. Mr. Williams, as Chairman of the Board of North American, is furnished with an office by the company.

8808 Q. But he has no office separate and apart from his offices furnished as Chairman of the Board? A. Not individually, I think. I don't know of any office apart from that which the North American Company provides for him.

Q. I believe you testified that twelve stories of that building are occupied by the Hanover Bank & Trust Company? A. That is true.

Q. I think you further testified that one purpose which existed in respect to the acquisition of this building, and one result achieved was the creation of a hedge against possible

advances in rentals in the district in which the building is situated, is that true? A. That is what happened. It was bought because it was thought that it would be a good investment, and the fact that it was a good investment was what resulted in its acting as a hedge against increasing rental costs.

Q. Would you say the word "hedge" was appropriate there. As a matter of fact, isn't the gamble about the same

—7,042—

when you buy the building as it is when you have to be on 8810
the other side with respect to renting from time to time,—would you consider that a real hedge? Aren't you just as liable to be holding the equity when rents are low, and lose in that respect, as you would be if you were renting, and might have to meet the disadvantages of higher rent, but also receive the advantages of low rent periods? A. Well, an investment situation is always apt to change.

Q. Yes. A. And has changed in real estate in the past several years, and in the years following the acquisition of Sixty Broadway, there were times when a great many people were buying buildings purely to be sure of having an office. 8811

Q. But rather as a hedge, since you assumed that ownership would be more profitable than depending on rate changes for the composition of your rent expenses, isn't that right? A. There is more involved than that. You can't always be shifting your office just for the purpose of getting the best rent that is available, and the fact that you do own a building gives you what amounts to a hedge against unreasonable rentals. It protects you from the necessity of moving from time to time, and particularly in a case such as Sixty Broad-

way where you have long leases with very large and responsible tenants, it very definitely serves the purpose of a hedge which is protected to a very great extent on the down side.

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In other words,——

Q. (Interposing) You believe that the disposition of No. Sixty Broadway, at the present time, would result in a loss to the North American Company? A. I feel that it
8813 would, based on the general situation with respect to real estate in financial New York.

The thing that might militate against that, to some extent, is the existence of these long term leases. In other words, a purchaser who perhaps would not look at another building at all might look at Sixty Broadway at the present time, but I don't think he would be apt to pay us as much as our investment in the building amounts to.

Q. As to that, possibly the advantage of the hedge, if you call it that, may have been offset by the decrease in the capital investment in so far as it is recoverable. A. If we were
8814 forced to liquidate at this time, that might be true.

Q. Do you foresee, or anticipate, a change of conditions which might enable you to dispose of the building on more favorable terms? A. Personally, I cannot see that the financial situation is going to remain as stagnant as it is at the present. If this country is going to progress, we are bound to have more financial activity, even in New York City, and when that happens, the value of Sixty Broadway will come back.

—7,044—

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Q. But if you sold now, I am referring to Sixty Broadway property, the result would be rather the enforced recordation of a loss already sustained upon your books; wouldn't it be the realization of a loss that actually has been suffered by reason of the decrease in realty values? A. We are perhaps caught in a cycle that affects real estate in New York City, and if you liquidate any investment at the bottom of a cycle, you are bound to sustain a loss. Real estate in New York is practically at the bottom of the cycle, there may have been just a very slight improvement, but it is an 8816
improvement more in tenancy than it is in rentals. But I don't think it is fair to look upon any investment in view of what it might bring at the bottom of a cycle such as that.

Q. You have characterized this present period as the probable bottom of a cycle, in the ordinary sense of a business cycle? A. I believe that based on the general improvement in business activity which I think will eventually be felt in real estate.

Q. You have spoken of the West Kentucky Coal Company and its subsidiaries. I believe you stated that in that case, also, a present sale would necessarily entail the realization of a substantial loss on the investment of North American Company, is that true? A. I believe that it would. 8817

—7,045—

Q. Do you anticipate a change of conditions which would enable the North American Company to realize a greater proportion of its investment, or a larger proportion than at the present, in the realization of this property in the near future? A. How near in the future that might be when that would come about, I could not say. There is a very sub-

8818 *Herbert C. Freeman—By Respondents—Cross*

stantial value in the assets of that company. The realizable value depends,—or is bound up so much with general business activities that I think it would only be in a period of fairly good general business activity that we should be likely to be able to realize anything like the value at which we carry it on the books.

Q. Would you say that at the present time, under existing legislation, the ownership of West Kentucky Coal Company benefits any of the operating utility subsidiaries of the
8819 North American Company,—that is to say, the ownership by North American Company of this coal property? A. It is hard to say whether there is an element of benefit there. If there is, it is possibly a psychological benefit based on some improvement in trading position which it may give to our subsidiaries.

Now, as I suggested, the fixing of prices for coal somewhat militates against that, but if there should be a stop

—7,046—

in the coal supply, I mean strikes, or causes of that kind, the ownership of those mines might be very important.

8820 Q. Now, are you familiar with the reasons which impelled the management of the North American Company to make their investment in 1925 which resulted in the obtaining of control of Western Power Corporation? A. I think the investment was made because it was regarded to be a favorable form of investment for the company. I don't think there were any reasons which impelled them, as you say, other than that. There was a situation there in which there was obviously the opportunity for the building up of a great property and they took that opportunity and made

the investment, and then, having completed their job, as it were, in that property, they carried it through to the logical conclusion and sold it to the one company with which it could be integrated to a very great advantage to both the Pacific Gas & Electric properties and to the properties of Western Power.

Q. Well, there was no loss sustained by the North American Company either? A. Regarding the proposition as a whole, there was a very substantial profit.

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The Examiner: Let us have a short recess.

(Whereupon, following the taking of a short recess, the hearing was resumed.)

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Q. When was the sale of the California property, controlled by North American, made to Pacific Gas and Electric Company? A. The basis of the transaction was agreed to in March 1930, but there had to be certain commission approvals obtained and the completion of the transaction was early in June 1930.

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Q. During that period of approximately five years in which control was exercised by North American Company over the Western Power Corporation properties a program of expansion and construction was carried out, was it not? A. It was.

Q. And capital was furnished in large part by the North American Company? A. Entirely by the North American Company. My recollection is that the North American Company increased the investment in subsidiaries of Western Power Corporation by upwards of $23,000,000 during that

8824 *Herbert C. Freeman—By Respondents—Cross*

period in the form of capital or advances and those advances were canceled at the time of the sale to Pacific Gas and Electric Company.

Q. And the facilities so erected were in large part in competition with those of Pacific Gas and Electric Company? A. The greater part of them were, yes. There was some expansion in the southerly properties which were not in direct competition with Pacific Gas, but the development in

—7,048—

8825 the northern properties was directly in competition with them and of course the tie-line between the northern and southern properties might be regarded as somewhat in competition.

Q. So that a point was reached at which it was obviously in the interests of economy, taking the two systems together, that the Pacific Gas and Electric properties and those so controlled by the North American Company be operated together, is that true? A. Yes, from the point of view of economy, and I think in the public interest. There was economy of course not only in the elimination of competition

8826 but in the actual operation of the property.

Q. And you would say the North American Company was largely responsible for bringing this condition about, as well as for bringing about the actual integration in respect to ownership of the two sets of properties? A. I would say the North American Company had a very large part in that. It was naturally of mutual advantage and both sides worked on it to bring it about.

Q. Didn't the management of Western Power Company, prior to the time the North American Company made its in-

vestments in that company, have a program of expansion upon that later developed by the North American Company? A. I have no knowledge as to that.

Q. You don't know that as far back as 1922 such a

—7,049—

program had been discussed and considered by the officials of the Western Power Corporation? A. Of the Western Power Corporation?

Q. Yes. A. That was——

Q. (Interposing) Or the Great Western, the companies 8828 then in control of the properties acquired by the North American Company in 1925. A. Perhaps I didn't understand your question. I thought you asked me if I knew that the Pacific Gas and Electric Company had expansion plans.

Q. No, the other company. A. I beg your pardon. I think I testified yesterday that these expansion plans had to a large extent been under way at the time we made our investment, but it was the opportunity for the investment which those plans required which made the purchase to a large extent attractive to the North American Company. In other words, there was a big development job to be done, and 8829 if it was done well it would in all probability be a profitable one.

Q. Would it be an unfair statement to say that the North American Company was influenced in its investment in the Western Power Corporation properties by the probability that through its ability to furnish additional capital for construction purposes it could create a physical situation in

—7,050—

territory served by Western Power Corporation wherein a

sale on a profitable basis to Pacific Gas and Electric Company would be almost a foregone conclusion? A. No, I don't think that would be a fair statement. Those two companies could run along on an independent basis almost indefinitely.

Q. This wasn't, then, a 5-year adventure out there, made in the hope of so building up the Western Power properties that they might be sold at a profit to Pacific Gas and Electric because of the increasing competition which they afforded to
8831 Pacific Gas and Electric? A. Not to my knowledge. I don't think that was the controlling interest in any sense.

Q. Nor do you think it was a factor in the determination to make the initial investment? A. No, not to my knowledge.

Q. Reverting again to the organization of the North American Company, would you please state the names of the eight officers of the North American Company and their respective positions? A. Mr. Harrison Williams, Chairman of the board of directors; Mr. E. L. Shea, president; Mr. J. F. Fogarty, chairman of the executive and finance committee; Mr. F. H. Piske, vice president and treasurer; Mr.
8832 Ralph F. Moody, vice president; myself, Herbert C. Freeman, vice president; Mr. Reed Hartel, secretary; Mr. P. D.

Preger, controller.

Q. And the two assistant officers, will you state their names and positions, please? A. Mr. R. K. Nunn, assistant treasurer, and Mr. J. C. Johansen, assistant secretary.

Q. Which of these men whom you have named have had public utility engineering experience? A. Mr. Ralph Moody.

Q. Any others of the officers or assistant officers? A. No.

Q. How are the 99 employees of North American Company classified in regard to their functions? A. There are 22 employees in the controller's division; four in the treasurer's division; 37 in the secretary's division; 19 in the stock transfer division; 8 in what we call the operating division; and there are 9 executive secretaries.

Q. What are the duties of the 8 persons employed in the so-called operating division? A. They keep in touch with matters of construction budgets, matters of that kind. They include a rate expert; they include, for example, Mr. Lindseth, who has testified in this case, and who is assistant to Mr. Moody. They are the people who are more directly involved in keeping in touch with the reports which come in from the subsidiary companies, other than those of a purely

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accounting character.

Q. Would you state the names of those eight persons and their respective titles, if any? A. I can give you the name of five of those; the other three are secretarial and filing help and people of that kind. The five are Mr. Elmer L. Lindseth, Engineer; Mr. W. C. Heise, Engineer; Mr. Charles E. Neil, rate specialist; Mr. Earl C. Sandmeyer, executive assistant; and Mr. E. M. Thierry, assistant to the president.

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Q. This division is under the supervision of Mr. Moody, is it? A. Yes; in that connection, though, Mr. Sandmeyer and Mr. Thierry report also directly to Mr. Shea, the president of the company.

Q. How long has Mr. Shea been president of North American Company? A. Since early in 1940; I can't remember the exact date.

8836 *Herbert C. Freeman—By Respondents—Cross*

Q. In what business was he engaged prior to the time he became president of the North American Company? A. He was an executive officer of one of the large oil companies.

Q. Had he ever been an executive officer of any utility company or utility holding company, so far as you know? A. So far as I know he had not.

—7,053—

8837 Q. You have testified as to assistance given by the officers of the North American Company in connection with certain financing by subsidiary companies; in cases in which such assistance has been given has it been the usual custom of the North American Company to secure the assistance of counsel by which I mean attorneys at law in connection with such financing? A. Counsel for the North American Company has, I believe, in almost every case either attended to the legal details or has been in touch with the legal details, together with counsel for the individual operating company.

Q. Where would you draw the line between legal details and other details in such a connection? A. Did I mention other details?

8838 Q. No, but I did. What would you say were the legal details as distinguished from any other details? I thought you mentioned legal details. A. The other details involve the development of the plan of financing, the determination of the time, the determination of the bankers to head the syndicate, and the composition of the syndicate, the supervision of the preparation of all the necessary applications and registration statements, financial statements, discussions with bankers and the eventual of negotiation of the terms; assistance in appearances before regulatory bodies, the arrang-

ment of the details of closing. I think that about covers it.

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Q. What officers of the North American Company usually appear before regulatory bodies on behalf of subsidiaries? A. I don't think that officers of the North American Company have appeared before any regulatory bodies in connection with actual financing. Those appearances are made by the executive officers of the subsidiary companies themselves, but the North American Company officers have very frequently discussed financing in a preliminary way with, 8840
for example, the Securities and Exchange Commission. They have also made appearances—I will mention just one instance—before the Wisconsin Commission, for example, in connection with the financing in 1938. Mr. Doolittle appeared on behalf of the North American Edison Company in connection with the transaction under which the old Milwaukee Electric Railway and Light Company acquired Wisconsin Electric Power, and that, of course, was one of the details of the financing at that time.

Otherwise the service which the North American Company renders is in the preparation for the appearances and 8841
the ground work which is laid for them.

Q. Are you familiar with the work of any of the so-called independent service companies in the public utility field? A. No, I am not.

Q. Therefore you do not feel competent to make any comparison or contrast with the work performed by the North

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American Company in respect to its subsidiaries on the one hand, with, on the other hand, the work done by such service

companies for their clients? A. My only basis of comparison would be the importance of the transactions involved. I don't know of any important cases in which those services have been engaged that would compare with the financing operations of our subsidiaries.

Q. Now you know Mr. Van Wyck who assisted in this case? A. I know him very well.

Q. Have you read his testimony in this proceeding? A. Yes.

8843 Q. Do you know whether or not there is any present member of the personnel of the North American Company who has had experience in indentures and indenture financing comparable with what Mr. Van Wyck has recited as his own experience in that respect? A. Not in the technical details of setting up the indenture. I think from the point of view of the principles to be covered in the indenture and the points to be safeguarded, Mr. Fogarty's experience is equal to that of Mr. Van Wyck's and Mr. Pisky has had very considerable experience along those lines, and I myself have had about 14 years of experience dealing with those ques-

8844 tions, but Mr. Van Wyck's experience has been somewhat unique because as counsel he has been engaged in the actual

drafting of the provisions. We act only as critics of the provisions after they are drafted, and as people to suggest provisions and modifications of existing provisions.

Q. Since Mr. Van Wyck's assumption of his present duties with the North American Light and Power Company has the drafting of indentures of North American subsidiaries which are not subsidiaries of North American Light

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and Power Company been left more largely to counsel than was the case while Mr. Van Wyck was still active among such other subsidiaries of the North American Company? A. I think Mr. Van Wyck has had a great deal to do with the drafting of the Union Electric indenture and I think of some of the papers in the Wisconsin Electric financing. He has testified to that. Apart from that the rest of us, as I say, have rather acted as critics; the actual drafting has been done by counsel, both Sullivan and Cromwell, and counsel for the individual operating companies.

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Q. The North American Company as such is not subjected to regulation by any regulatory body other than the Securities and Exchange Commission, is it? A. I don't know that it could be called a regulatory body. Of course we are subject to the laws of the State of New Jersey, corporation laws. We have to comply with the requirements of the New York Stock Exchange, but there is no governmental body

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which exercises regulatory supervision of us.

Q. You submit no reports to any public utility commission or any State or to any commission of any State occupying a situation in respect of utilities such as is ordinarily occupied by a public utility commission or public service commission? A. No.

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Q. So except as you have stated, the nature and extent of the expenditures of the North American Company and of its activities is not subject to restriction or regulation by any State bodies, governmental bodies? A. The nature of its expenditures I would say is subject to regulation and restriction by the Securities and Exchange Commission, but otherwise there is no regulation.

8848 Q. I believe you stated that the North American Company officers and personnel assisted the managements of the several subsidiary public utility companies in respect of appearance before State regulatory bodies, is that correct? A. I don't believe I said so much in connection with appearances, but we have reviewed the applications filed by the various subsidiaries with the various State regulatory bodies in connection with financing and matters of that kind. I think there may have been other occasions where we have
8849 assisted in actual appearances. The one I mentioned of Mr.

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Doolittle's appearance is one, but at the moment I can't recall others.

Q. But you would feel free to do so if you considered that the interest of the subsidiary involved and the interest of the North American Company, isn't that true, in the absence of any positive law or regulation to the contrary? A. I don't think the question has ever come up. I don't know what standing we would have before a State regulatory body unless we were in some way a party to the transaction and as
8850 to that we have always stood ready to appear wherever it was necessary, but the matters presented to the Commissions in which we were parties on one side as, let us say sellers of securities, have always been sufficiently explained in the papers filed and by the appearances of the subsidiaries themselves, and to my recollection it has not been necessary for us to make appearances. I might mention one instance where the tax commission of the State of Wisconsin called for our service in connection with the taxes of the Wisconsin Company, but that was an isolated case, as far as I have any knowledge.

Q. Does the North American Company engage in any activities directed to the benefit of public relations between its subsidiaries and the public served by them? A. We try to advise them on matters of reports and relationship with stockholders and with the public, but chiefly through the

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medium of their reports. Mr. Thierry whom I have mentioned deals with all of our own reports and stockholder correspondence, and matters of that kind, and the building of good relations in that way, and he reviews all of the re- 8852
ports and statements made by the subsidiary companies and looks at them from that point of view, and gives them the benefit of his experience.

Q. Is the North American Company a member of or does it contribute to any association or other organization which carries on any campaign or publishes any literature designed to improve the relations existing between consumers and public utility companies? A. No.

Q. Mr. Freeman, will you please turn to Respondents' Exhibit 125, at page 68? This page purports to be a schedule of certain debit balances of combined loan advance accounts 8853
of operating subsidiaries of the North American Company, Wisconsin Edison Company, Inc., and North American Edison Company, for the years more particularly set forth in the caption to the table. With respect to the advances and loans which are reflected in part by this table, was it the custom of the North American Company to charge interest upon the advances so made? A. Yes.

Q. Can you state the rate of interest and the manner in which the same was determined? A. During the period from

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1915 to the middle of 1920 the general practice was to charge interest on advances at the rate of 6 per cent. per annum, but from October 1915 to October 1916 the rate in some cases was 5 per cent. per annum. From August 1920 to April 1922, following the rise in interest rates which began about the middle of 1920, the rates charged were in excess of 6 per cent. They averaged approximately 7¾ per cent. in seven months during this period, and went as high as 8⅛ per cent. during five months of the period.

8855 During the last nine months of 1923 the rate charged was 6⅝ per cent. In the latter part of 1930 the rates were reduced from 6 per cent. to 5½, 5 and in some cases 4½ per cent., but during 1928 and 1929 when call money rates were very high the charge to subsidiaries was restricted to 6 per cent., which was substantially lower than the call rate.

Q. What was the latest period covered in your statement just made as to interest rates? A. This covered the period down to 1930. Subsequent to 1930 the only substantial advances were those to Union Electric Company of Missouri. I have no record with me of the rates charged to that com-

8856 pany since 1930, but my recollection is that it was not more than 4½ per cent., but I shall be glad to furnish that for you if you wish to have it.

Q. Are there any present advances due to the North

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American Company from its subsidiaries? A. There have been no advances to subsidiaries since the end of 1935.

Q. Are there any amounts presently owing on account of advances made to subsidiaries? A. No. I meant to imply that in my answer.

Q. Then in respect to advances the table which you have submitted comprises all matters which would be shown upon it according to its caption, even if the date were extended to 1935, to the present time? A. That is correct.

Q. Now I asked you relative to the interest rates charged by North American Company, as to what those rates were and how computed. I believed you answered what they were but did you answer as to how the rate was arrived at? That is to say, was it the ordinary rate for commercial bank loans prevalent at the time of the advance, or at the time of the 8858 collection of the interest, or how was it determined? A. It was somewhat in excess of the rate which the North American Company paid during part of that period when it was a borrower. Up to 1923 as compared with the rates which I have mentioned there was a differential of about 1.2 per cent. in favor of the North American Company. From 1924 to 1935 the North American Company was not so apt to be a borrower during that period. During that entire period the

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average of the rates charged to subsidiaries was just over 5½ per cent. and the average paid by the North American 8859 Company during those months in which it was itself a borrower was 5.7 per cent.

Q. When you speak of periods during which the North American Company was itself a borrower, you mean to exclude only borrowings, current funds, rather than upon funded debt? A. Yes. I am afraid I made a misstatement in that last answer. What I meant to say was that the average rate charged to the subsidiaries during the months during that period from 1924 to 1935, when the North American

8860 Company was itself a borrower, was 5.7 per cent., but the rates paid by the North American Company on its borrowings in those months, which were not a great part of the period, averaged 3.9 per cent., so that in those particular months there was a differential in favor of the North American Company of 1.8 per cent.

Q. When you speak of the rates paid by the North American Company you mean the rates paid upon bank loans as distinguished from rates paid upon funded debt as repre-
8861 sented by debentures? A. That is true; during that period the North American Company of course had outstanding debentures on which it was paying 5 per cent. That is during part of that period.

Q. The table of which we have been speaking includes accounts due to Wisconsin Edison Company, Inc., and to the North American Company, as well as to the North American

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Company. What policy was pursued by the Wisconsin Edison Company, Inc., with respect to interest collected by it upon advances of the character here shown to its sub-
8862 sidiaries? A. The statement I have made is intended to apply to all of the advances during this period. I don't think there was any difference in the treatment by the three companies.

Q. Was the rate of interest charged to subsidiaries determined by the addition of an overage or additional figure to the rate paid by the parent company making the advance? A. No, not specifically.

Q. You speak merely of the relations borne and not of the method of determining the rate itself, then? A. I don't think there was any specific differential that was applied but

the fact that a differential was justified was considered because the North American Company was, of course, borrowing on loans with a definite payment date, whereas its advances to subsidiaries might run on almost indefinitely until the company to which the advance was made was in a position to finance or until the North American Company itself took common stock against the advances which it had made.

Q. In this table to which we have been referring, balances favorable to the advancing companies are all that are shown. 8864
Is it true that from time to time the debit bounced around the other way, that is to say the subsidiary companies would

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have on deposit funds with the parent? A. There were periods during which some of the subsidiaries had credit balances.

Now was interest paid upon those credit balances by the North American Company? A. Yes.

Q. Could you state the rates at which that interest was paid? A. The rates varied from time to time during the period. In 1915 they were credited with interest at three 8865
per cent. There was one month there where the rate varied or the rate was in some cases 2½ per cent. In 1916 and 1917 where there were advances, where there were credits, the rate was 2½ per cent. In 1919, 1920 and 1921 the rate was in some cases 2 per cent.; in other cases 2½ per cent., but in certain cases during 1921 the rate was as high as 7.8 per cent. That was on, I think, balances held for short periods for use in the call money market.

In 1922, 1923 the rates varied from 2 to 3 per cent. They became 3 per cent.—there was nothing lower than three per

cent. at the end of 1923. 1924 and 1925 and 1926 they varied from 2 to 3 per cent. up to the middle of 1926. The latter part of 1926 they varied from 2 to 4.8 per cent. 1927 they varied from 2 to 4.4 per cent. In 1928 they varied up to as high as 8⅛ per cent. 1929 up to 9 per cent. That was

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during the period of high rates in the call money market. In 1930 the call money market dropped very appreciably and the rates varied from 2 during the most of the year up
8867 to 4¼ per cent., and during the latter part of the year down to as low as 1½ per cent. That was when the call money rate was 2 per cent.

In 1931, 1932 the rate varied from something over 2 per cent. to 1½ per cent., 1 per cent.; at the end of 1932 the call money rate dropped to 1 per cent., and there was a credit in that month of ½ of 1 per cent. In 1933 there were only credit balances during the first three months of the year. The first two months credits were ¼ of 1 per cent. against a call money rate of 1 per cent., and in March for some reason the call money rate went up to 3.3 per cent. and the credit
8868 was at the rate of 2.9 per cent.

During that period the intention was to follow the call money rate on cases where the deposit was left with the North American Company primarily for use in the call money market, where they had surplus funds.

Q. To follow the call money rate but not to equal it? A. But not to equal it; no, it was somewhat below the call money rate.

Q. Roughly, could you say about how much below the call money rate the average rate paid upon such deposits

was during the period of high money rates? A. Well, I can't

—7,065—

give the call money rates back of 1920. They are not readily available. In 1921 I have a record of some call money rates; for example, in January and February when we allowed some of our companies as high as 7.8 per cent., call money rates were 6.7 per cent. and 7.2. Later months during the year the call money rates averaged 5.5 per cent.; one month 5, another month a little over 5 per cent., and during that period whatever the credit balances were we were allowing 8870 only 2 to 2½ per cent. In 1922 and 1923 the call money rates varied from 3¾ per cent. up to 4.9 per cent., and 5.1 per cent. in 1923.

I have mentioned call money rates in some of the years from 1924 on. We really began to follow the call money market reasonably closely in 1928 when it began to go up. In that year there were differences of from 2/10 of a per cent. to a little less than a half of one per cent. between the rates allowed and the call money rates.

In 1929 there were differences of varying amounts. For example, in January when the call money rate was 7.5 per 8871 cent. the rate allowed was 6.4 per cent., and in July when the call money rate was 9.23 per cent. the rate allowed was 8.47. After that the call money rates began to drop and the variation between the rates credited and the call money rates in some cases disappeared, and in other cases was not more than ½ of one per cent.

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Q. How did the aggregate of deposits by the companies with their respective parents, that is the North American Company and the other two companies which appear on the

caption of the table we have been discussing compare with the aggregate of advances on loans made to the subsidiaries by the parents? A. There were only three companies which had—perhaps I should say four—credit balances for any extended period, from 1915 to 1935. The Milwaukee Light, Heat and Traction Company, which was one of the constituent companies in the Wisconsin area had balances in 1919, '20 and '21 ranging from $871,000 to $947,000. In '22 and '23 those dropped to $117,000 and then disappeared.

8873 The St. Louis County Gas Company had credit balances from 1925 to 1931. They were of no consequence after 1929, when they were $293,000. The highest balance was $745,000. Union Electric of Missouri prior to the period when our advances to that company began to be very heavy had credit balances during a period of years from 1922 to 1928. They varied in amount from $849,000 in one year, and in one year, 1928, they amounted to $9,258,000. The Wisconsin Electric Power Company, which also had had debit balances over a long period of years, up to 1928, had credit balances from 1929 to 1932. Those varied from $3,429,000

8874 in 1932 to $8,510,000 in 1929.

Now that company had developed credit balances in two

earlier years. Wisconsin Gas and Electric Company had a credit balance in one year, 1929, of $3,813,000, but in the early years this company had debit balances. Those are the main facts.

Q. I assume that from time to time situations would exist in which one of the subsidiaries would have a credit balance and another one would have a debit balance at the same time, is that true? A. Yes, in some years that was so. The dif-

ference between the two cases being that we had to stand ready to pay them the credit balances whenever they called for them. It would have been more difficult for us to collect the balance from the company which owed us the money; we might have had to take common stock for it; it would depend entirely upon their ability to finance at that particular time.

Q. I suppose since these companies were subsidiaries you would have some voice and consideration with respect to when they made their calls, would you not? A. Not entirely. After all, they have to provide facilities and they are not in 8876 position always to delay the building facilities. They may have to have the money.

Q. Would it be correct to say that prior to 1935 any substantial portion of the income of the North American Company was derived from interest charged upon advances and loans to subsidiaries? A. In excess of interest paid, you

—7,068—

mean?

Q. I didn't include that deduction; without including that deduction if they were properly deductible. A. I haven't any actual figures to show that but it is obvious that based 8877 on the amounts of the advances shown in the exhibit, page 68, that the interest received by the North American Company could not have represented a very large proportion of its income. After all, until we get up to the year 1932 the aggregate did not exceed $17,000,000. At that time it appears that we were charging approximately 5½ per cent. on the average, covering a period. I don't know what the rate was in the year 1932 itself, but I should think, based upon what I have testified with regard to the year 1931, that it was probably lower than 5½ rather than higher, so that in that

particular year the interest on $17,000,000 would have amounted to about $935,000, and at that time the total income of the North American Company was probably in the neighborhood of $25,000,000.

Q. Of course the overage between the amounts paid as interest upon deposits made by subsidiaries with the North American Company and the rate at which the North American Company was able to place that money in the call market, was also income to the North American Company?

8879 A. Not also income; that would be included in the amount which I have mentioned. That was the gross.

—7,069—

Q. I was speaking before the gross income received by the North American Company from interest paid by its subsidiaries to it by reason of advances made by the other subsidiaries. I am now speaking of the other side of the picture, the profit to the North American Company in the reloaning upon the call market of money obtained from its subsidiaries at a lower rate; that also was a factor in the North American gross income, was it not? A. Yes, during the period

8880 when we were lending money in the call market, but that was not a very extended period. I have given figures showing the call money rates as applied to rates which we were crediting to subsidiaries over a long period, but we were not lending money in the call market during all of that period. My impression is that we probably only had call money loans out in two years during that period.

The Examiner: It is now 5:15 and we will recess until 9:30 Wednesday morning.

(Whereupon at 5:15 p.m. the hearing adjourned until 9:30 a.m. Wednesday, April 9.)

—7,070—

BEFORE THE

Securities and Exchange Commission

DOCKET NO. 59-10

IN THE MATTER

of

THE NORTH AMERICAN COMPANY, *et al.*

Hearing Room 1101,
Securities and Exchange Commission Building,
18th and Pennsylvania Avenue, N. W.,
Washington, D. C.,
Wednesday, April 9, 1941.

Met, pursuant to adjournment, at 10:00 o'clock, a. m.

Before: WILLIAM W. SWIFT, *Trial Examiner.*

Appearances:

S. PEARCE BROWNING, JR. and CHARLES S. HAMILTON, JR., of Sullivan and Cromwell, 48 Wall Street, New York, New York, appearing for the North American Company, et al., Respondents.

RALPH C. BINFORD, appearing for the Securities and Exchange Commission.

8884 *Herbert C. Freeman—By Respondents—Cross*

PROCEEDINGS

The Examiner: Let us proceed, gentlemen.

Whereupon, HERBERT C. FREEMAN, a witness called on behalf of the Respondents, having been previously sworn, resumed the stand and testified further as follows:

Cross Examination by Mr. Binford (Continued):

8885 Q. During these periods of high call money which you have mentioned, would it be correct to say, Mr. Freeman, that the North American Company acted as a conduit by which the subsidiary utility companies, having available cash, were enabled to place such cash on favorable rates of interest in the money market in New York? A. I don't think I would characterize it in that way, because I don't recall to what extent the North American Company actually placed money on the call market at that period. My recollection is that it didn't amount to very much.

8886 Q. It was sufficiently substantial, however, to cause the management of The North American Company to feel that they could afford to pay interest to the subsidiaries on this so-called deposit at a rate measured in part, but lower than the call money rate? A. I think the feeling rather was that whatever happened in the call money market, that the rate

—7,072—

of interest should bear, at that particular time, some reasonable relation to the call money rate.

Q. But you do not recall why the feeling existed? A. I can't say to what extent money was placed in the call money

market at that time; the amounts involved, after all, are not very great.

Q. The tendency of high call money rates, in its effect upon subsidiary utility companies which might have a choice between the employment of funds for the development of their utility systems, or the employment of such funds in the call money market through the North American Company, would be to cause the management of the subsidiary utility companies to place their funds at this high rate of interest, rather than to employ them for the additions and betterments to 8888
their systems, would it not? A. I don't think that would be a controlling factor. Utility companies must make additions and betterments, and, in good time, before the demand develops, and they would be guided rather by the question of cost of construction at the time, and the particular time when the demand would be likely to develop, rather than by what the money might earn as money.

Q. Isn't there normally, however, a marginal field within which improvements and betterments do not have to be made and funds which can be employed profitably elsewhere are consequently not drawn upon? —7,073— 8889

Mr. Hamilton: Will the reporter repeat that question?

(Whereupon, the pending question was read by the reporter.)

By Mr. Binford:

Q. (Continuing)—that is, for the purpose of betterments and improvements. A. I don't know just what you mean by "normally a marginal field"; the situation usually is that

8890 *Herbert C. Freeman—By Respondents—Cross*

the utility company tries to provide capital to meet its requirements over a reasonable time in the future,—that time may be a longer period or a shorter period, according to the money market at the time, and according to the rapidity at which the demand develops,—by that I mean, utility companies may, if the money market is favorable at some time, finance a little ahead of the requirements, and at other times, they may, because of favorable construction costs, develop a little ahead of the immediate requirements. I don't think
8891 there is what you might call a normal condition there. The condition has to be met from time to time.

Q. Possibly I can illustrate that by an example:

Let us suppose that a utility company feels that the improvement of a certain transmission system, or line, is desirable for future development, but not essential to be made at any given moment. Suppose, further, that such utility company has on hand such available cash with which to make the intended improvement. Now, isn't it true that the man-

—7,074—

agement of a utility would be less likely to expend that
8892 money at the present moment, let us say, in the improvement of this transmission line, and the consequent possible increase of its rate base, if it can temporarily employ these available funds at, let us say, 7 per cent., or some figure higher than the rate base in the call money market? Wouldn't the inclination be to defer making the improvement while that opportunity for a large interest existed with respect to these available funds? A. I still say, in spite of your example, that the rate of possible earnings on cash, as cash, would not be a controlling factor.

After all, all of us in the industry are utility-minded; we are not thinking of those things from the point of view of lending money; that is not our function, and I don't believe any management would speculate on the possible cost of construction changes during a period when it might manage to earn a few hundred or a few thousand dollars on money that was lent out at call money rates.

Now, by that I don't mean that they will rush in and do construction work that is not needed, and I believe the record of all our companies shows that they do attempt to finance 8894 their requirements ahead of the demand actually developing. That, at times, means that they have a certain amount of cash on hand, and naturally, if there is an opportunity to use that cash, they use it to the best advantage, entirely con-

—7,075—

sistent, however, with its requirement for utility purposes.

Q. You indicate that the management of The North American Company has not been interested in the loaning of money, primarily, but primarily in the utility interest prices. Nevertheless, the functions which the North American Company has to perform in regard to making advances 8895 to subsidiaries is shown by the exhibit to which we have been referring, and in the receipt of the so-called deposits from such, somewhat approaches commercial banking, or did it not, during such a period. A. No, I don't think it at all approached that kind of business.

Q. Except for the restricted clientele, what restriction could be drawn? A. No, we did not advance this money to our subsidiaries primarily from the point of view of what that money would earn as money; we were thinking of providing our subsidiaries with the capital that they required

8896 *Herbert C. Freeman—By Respondents—Cross*

for their construction and other needs, from time to time, under conditions which would enable them to finance their requirements permanently to the best advantage at some time in the future, knowing that in the last analysis, if they could not finance in any other way, that we always stood in a position to take Common Stock for these advances, or for part of them, and the record shows that we did actually ex-

—7,076—

tinguish some of these advances by taking Common Stock
8897 for them.

Now, as to the other side of it, where they had financed their own requirements a little ahead of time and had some cash which they did not immediately require in the normal conduct of their business, we did assist them to the extent we could in earning some return on that money, but it was not at all from the point of view of what you might call the commercial banker.

Q. How have the financing requirements of the subsidiaries of the nature formerly taken care of by this system of advances been met since 1935? A. They have been met,
8898 very largely, by direct financing by the subsidiaries themselves, and in part, by the use of their own funds representing reserves made out of income and in part, by undistributed earnings, from time to time.

Q. And as to temporary requirements such as I understood were those primarily satisfied by the advances prior to 1935, have those requirements been met, in part, by bank loans made directly by banks to the subsidiaries since the cessation of the practice of advances? A. To a very limited degree,—you are speaking now of short term bank loans, as

distinguished from these long term loans which are shown in the schedules of financing?

Q. Speaking of both. A. There have been some long term

—7,077—

loans, such as the $15,000,000 bank loan obtained by the Union Electric Company of Missouri, and the bank loan secured by Wisconsin Electric Power Company at the time of its refinancing in 1935, but there has been practically no short term borrowing by any of our subsidiaries.

My recollection is that in only one case, one of the minor 8900
subsidiaries, has there been any bank borrowing, and that amounted to a matter of two or three hundred thousand dollars,—I don't recall any other.

Q. How do the rates of interest on long and short term bank borrowings by subsidiaries compare, since 1935, with the rates previously charged by North American Company to subsidiaries for advances? A. The subsidiaries did not begin to make any of these loans until the money market had got to a point where that money could be obtained very cheaply. The $15,000,000 loan of the Union Company, for example, could be obtained on a per cent. basis, which 8901
was better, as an actual interest rate, than the basis on which the company could sell its mortgage bonds at that time, and it also afforded a way by which permanent financing on a long term basis could be done at some time in the future without incurring the expense that would have been involved in calling long term bonds, so that it is not possible to compare the experiences during a period of low money cost

—7,078—

which prompts that kind of financing, to a certain extent,

8902 *Herbert C. Freeman—By Respondents—Cross*

with the experience during a period where the requirements are not permanently financed because money rates are high.

Following the Union loan there have been one or two other loans, long term bank loans placed on even more favorable rates, and the Wisconsin Company, having made one long term loan, was able to readjust the rate of interest on that very loan, at a lower rate later on.

Money rates, at the present time, as you know, are very low and have been for the past three or four years and they
8903 have, during that period, for the most part, shown a tendency to get cheaper.

Q. Do you know whether or not the subsidiaries to whom advances were made from time to time by The North American Company, could have at such times, have borrowed such sums to meet their then requirements from commercial banks. A. At times, I know that the amount of our advances have been in excess of what the companies could possibly have secured from the banks and I think at any time when we were advancing the money it was more to their advantage from the general maintenance of their credit to obtain the
8904 money from The North American Company than to obtain it from banks.

Q. Did they obtain it at a higher cost than they would have paid to the banks if they had borrowed from the banks?

—7,079—

A. I am sure they did not. And, in effect, the amount of the borrowings was such that it would to some extent have strained the banking credit of a company. You just can't compare the money rates at all.

Q. But you made no comparison by looking in the record, in that respect, or from your own knowledge? A. I have

already testified that the rates which we were charging the subsidiaries bore a reasonable relationship to the rates which we, ourselves, were paying to the bank. Now, at the time when we were borrowing money from the banks, we had no funded debt at all; that was before the issue of our debentures, and I don't think that the subsidiaries could have borrowed to as good advantage as The North American Company, at that time.

Q. The reasonable relationship you speak of is the relationship shown by the figures heretofore given in the course 8906
of cross examination as to the rates paid? A. Yes.

Q. Do you know anything as to any efforts made by the subsidiaries during this period when they received advances from North American Company in the way of attempting to secure money from outside interests, namely, from banks, in lieu of receiving advances from North American? A. No, I have no knowledge of that.

Q. Do you know whether they did, or did not, in general,

—7,080—

attempt to obtain loans in lieu of advances from the company, that is, loans from outsiders, banks. A. No, I do not. 8907

I do know that in many instances the amount of our advances was in excess of what the banks in the company's territory could have lent them.

Q. Was it, at times, in excess of their immediate needs, the immediate needs of the subsidiaries? A. No.

Q. In other words, you would say it was not the practice of the North American Company, when it had idle funds, to make an advance to a subsidiary for the purpose of using the funds? A. Definitely, no.

8908 *Herbert C. Freeman—By Respondents—Cross*

Q. The salaries paid to the officers of North American Company are set forth in each case, are they not, in the U-5-S Report filed with this Commission? A. I believe they are.

Q. You spoke of a contract entered into by The North American Company with Thomas A. Edison in 1890, relative to financing certain works of Mr. Edison for a period of five years, in return for which certain uses of his inventions and patents was obtained by North American. Were other com-
8909 panies under North American parties to that contract, too, or did other companies have similar contracts with Mr.

—7,081—

Edison? A. No other companies were parties to our contract with Mr. Edison, to the best of my knowledge, and I have no knowledge as to whether he had similar contracts with other companies.

As to that particular type of contract, I believe not.

Q. The right to use his patents and inventions to the extent granted in The North American Company was not
8910 exclusive of The North American Company, was it? A. I don't know. I do know that that was a particular type of contract which related to the application of electric power to railroads, and my understanding is that that was somewhat exclusive to The North American Company.

Mr. Villard, of course, had been quite close to Mr. Edison, and was a great believer in the use of electric power for automotive purposes. He was interested in railroads, and it is my impression that that contract was intended to give The North American Company certain rights which other people could not enjoy with respect to that application of electricity.

Q. You have given certain figures relative to the percentage, or proportion, of earnings available for Common Stock dividends of the subsidiaries of North American Company, which have been actually taken up by way of dividends.

Now, in respect to those particular companies——

The Presiding Officer: (Interposing) New York is calling Mr. Freeman, so we will suspend for a few minutes.

—7,082— 8912

(Whereupon, following the taking of a short recess, the hearing was resumed.)

By Mr. Binford:

Q. (Continuing) Now, for example, the Union Electric Company of Missouri, can you state what proportion of the earnings of that company available for Common Stock dividends have been actually paid in as Common Stock dividends during the last five years?

Mr. Hamilton: Would counsel clarify that ques- 8913
tion of dividends?

By Mr. Binford:

Q. Can you state what proportion of the earnings of that company available for Common Stock dividends have been actually paid in as dividends, on Common Stock during the past five years? A. My statement related to a fifteen-year period, and I don't think it is entirely fair to relate a figure of that kind to too short a period, because, after all, one

8914 accumulates surplus during some years in order that it may be available during other years and during other years it may not be necessary to accumulate surplus. I don't know whether I have got the figures relating to any of these companies for individual periods. I should have to refer to the account of that company to determine what that was.

—7,083—

Q. You are unable to answer the question as phrased, at the present time? A. I am unable to answer the question about the Union Company now, yes.

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Q. Speaking generally, but again with reference to Union Electric Company of Missouri, isn't it true that during the past five years practically all of the earnings available for dividends on Common Stock have been paid to The North American Company in actual cash dividends? A. I should have to look at the accounts of the company to answer that. I can only answer it in a general way with respect to the last one or two years. I do know that during the last one or two years a substantial proportion of the earnings of that company have been paid out. You are speaking now of a five-year period and I can not answer it specifically with regard to a five-year period.

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Q. Can you answer it with regard to any particular period since 1935,—any shorter period? A. I have already indicated that my recollection is that during the last two or possibly three years a substantial proportion, very nearly all of the earnings have been distributed in the form of cash dividends,—I can't speak further than that.

Q. Now, with respect to the earnings of the Potomac Electric Power Company available for dividends upon Com-

mon Stock at that time, has the larger proportion of those

—7,084—

earnings been paid up to its parent, Washington Railway & Electric Company, since 1935 than would be indicated by your fifteen-year figure? A. I believe the proportion for the last five years would be larger than it was for the entire fifteen-year period.

In that case, however, it has to be kept in mind that we have accumulated very large surplus,—that company has a surplus, at December 31, 1940, of over $31,000,000, and 8918
earnings have been allowed to accumulate in that company, as they have in all our companies, during periods when, for example, The North American Company was paying stock dividends.

The stockholders of The North American Company are entitled to some return on their investment, and during the period when we were paying stock dividends, it was for the specific purpose of providing, in that way, for the requirements of the operating companies, and during that period, we allowed a very large amount to accumulate in the surpluses of those companies. 8919

Now, that cannot continue indefinitely. One accumulates a surplus in order that the earnings of later years may be available for distribution, and certainly with respect to the Potomac Electric Power Company, one of the problems has been that the size of their surplus is so great that it is almost

—7,085—

an embarrassment.

Q. You state that the purpose of the accumulation of surplus is that earnings of later years may be available for

8920 *Herbert C. Freeman—By Respondents—Cross*

distribution during such years. Hasn't it always been true that one purpose of leaving a portion of the earnings available for dividends upon Common Stock in operating companies is to provide, in part, for the growth and development of those systems and necessary equity expenditures and investments essential to such growth and development? A. That is one purpose, and I think that purpose has been very fully recognized by The North American Company. The Schedule which was filed as an exhibit yesterday shows that
8921 the Common Stock investment, both Common Stock and surplus, in all our companies is very satisfactory.

Q. You would not state that the period of growth or development in respect to the electric utility companies has come to an end, would you? A. By no means, and I think a period of possibly rather intensive growth is beginning, has already begun.

During the period from 1931 until 1936-37, I think the average utility company was able to provide for its requirements out of its reserves, which it made out of current income, provided their reserves were at the rates which The
8922 North American Company has provided during that period.

—7,086—

Q. But to the extent that a motive or purpose which you suggested might have actuated the management of The North American Company in leaving a certain proportion of earnings otherwise available for Common Stock dividends in the subsidiary operating companies, that factor still exists, does it not?

The Witness: Will the reporter repeat the question?

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(Whereupon, the pending question was read by the reporter.)

The Witness: Yes, I would say it still exists. It is a factor which fluctuates from time to time. It is of considerable importance during times of large expansions; it is of no importance at all during periods when expansion can be taken care of out of current reserves, and it is of varying importance at other times.

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By Mr. Binford:

Q. Isn't it true that since 1935 the proportion of earnings of subsidiary companies of The North American system which have been left with the earning companies, rather than drawn out by way of dividends, have been much less than it has over the fifteen-year period as a whole, which you have heretofore mentioned? A. It has been less,—I don't think it is fair to say that it has been much less.

—7,087—

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I could give you a figure for the North American system, as a whole, for the last five-year period.

Q. I would like to have a figure, if you will. A. I cannot give it as to specific companies, and I would like to make this comment in connection with it:

That the percentage which The North American Company has drawn down from its utility subsidiaries during the last five years of the period which I covered was less than the percentage drawn down by the eight independent companies during the preceding five-year period which was a period of some considerable difficulty for utility companies.

8926 *Herbert C. Freeman—By Respondents—Cross*

During the five years from 1935 to 1939, for The North American utility subsidiaries, as a group, 85 per cent. of the balance available for dividends on Common Stock was paid to North American Company in the form of dividends or to minority stockholders of those companies that had minority stock holdings outstanding, and they are entitled to some return on that capital, and during the preceding five years from 1930 to 1934, the eight independent companies paid out 87.4 per cent. of their earnings in the form of dividends.

8927 Q. Now, does the figure which you have just given with relation to The North American Company compare with similar figures which you gave yesterday with reference to the taking up of dividends over the fifteen-year period? A. The figure for the fifteen-year period was 69.1 per cent.

—7,088—

Q. During the fifteen-year period,—then the figure which you gave for that period on direct examination is somewhat misleading as to the recent policies of the company, isn't that true? A. No, it shows the long-range policy which has been to build up these companies, and during these past few

8928 years, these companies had passed the very severe period from 1930 to 1934 and had got into a period when the depressed conditions were not on them to the same extent, neither had the requirement for additional capital borne down on them to the extent that it is beginning to now, and may, for the next few years.

So that, this is entirely consistent with our long range policy, and it simply represents the advantage we have had during one period of paying out a larger proportion of earnings because of the fact that we have refrained from paying out so large a proportion during earlier years.

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Q. In Exhibit No. 128, which is in tabular form, and 129, which is in the form of a graph, you have set forth the consolidated earnings available for interest charges and dividends of The North American Company and North American Edison Company from 1930 to 1939, inclusive of both years, together with a picturization in the case of Exhibit 129, of the deviations from the ten-year average in respect to certain named companies.

—7,089—

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Now, as to Exhibit No. 129, which is the graph, has there been any weighting of the data shown in respect,—for example, Wisconsin Electric Power Company and subsidiaries, as to the amount of earnings involved as distinguished from the fluctuations of such earnings? A. The weighting of those earnings is reflected in the consolidated earnings available for interest charges and dividends of North American. After all, the North American Company is a weighting of the results of the constituent companies, but from the point of view of the investor, the investor does not go out and buy a weighted range of stocks, he goes and buys 100 shares of one stock and 100 shares of another, or maybe 10 shares of one and 10 shares of another. He is getting the benefit of the weighting, if he buys North American; but if he buys individually, he is just as likely to buy 100 shares of St. Louis County Gas as he is to buy 100 shares of Wisconsin Electric Power, if those stocks are available.

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So that, what this study tries to show is that from the point of view of an investor who buys individual companies, or buys stock in several companies, he fares better, on the average, if he is an investor in the securities of North Ameri-

8932 *Herbert C. Freeman—By Respondents—Cross*

can Company than if he buys on his own judgment stocks of individual companies which may be available in the market, related, of course, to the stocks of the companies which are owned by North American.

Q. Now, the unbroken red line on Exhibit 129 which

—7,090—

represents, according to the legend, Wisconsin Electric Power Company and subsidiaries, shows an extreme high point in the extreme lefthand corner of the chart, and there
8933 are marked deviations from the black line representing the consolidated earnings figure. There is no way, by looking at this chart, is there, by which one can tell what proportion of the consolidated earnings is represented by the earnings from Wisconsin Electric Power Company and subsidiaries?

In other words, by the red line, that might represent either ten cents or a million dollars, or any figure. It merely shows the fluctuations there. A. The chart is merely a graphic representation of the figures on the schedule which is the previous exhibit, and the figures for Wisconsin Electric Power are shown in this schedule.

8934 We could not, of course, express both figures and trends in the one chart.

Q. Washington Railway & Electric Company and subsidiaries, shown by the green line, shows less fluctuation, does it not, than the consolidated figure line? A. Yes. Obviously, the consolidated line represents a combination of figures and it is almost to be expected,—it is to be xpected that some of those figures will fluctuate more than the consolidated line, and some will fluctuate less,—that is why the consolidated line is represented, to some extent, as an—

average. —7,091—

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And, the fact nevertheless remains that an investor who had to choose, in 1930, what stock he would buy, would quite possibly have bought Wisconsin Electric Power and not have fared so well. He might possibly have bought Washington Railway & Electric, and in that case, he would have fared better, but there is another factor that enters into that:

This chart is prepared at the end of the period looking backward. We have to think of the position of an investor at the beginning of this period, looking forward, and he hasn't the power to tell what these figures are going to show over 8936
that succeeding ten-year period,—and if he could have gone back to a previous ten-year period to get the figure then, and had looked at that figure and bought the stock which might have been more favorable than another, then the stock he chose might not have been as stable over the next ten years as it had been in the past ten years, but if it had been, the chances are that he would have had to pay a premium for that stability.

Now, he gets that stability as a component part of his investment in North American.

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Q. Without the payment of a premium? A. Yes,—he may pay a premium for the North American stock, based on the judgment of investors that a consolidated picture such as North American will tend to be more stable than individual investments in individual companies.

—7,092—

That is quite possible, but, he will not pay a premium for one stock which may not be justified, based on the experience over succeeding years, and he will be spared from some of that,—of the fortunes of individual stocks which he can't prevent.

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Q. Of course, however, I presume that the combination of an investment of erratic earning power with an investment of stable, established and somewhat consistent earning power does not result in any advantages of stability, does it?

The Witness: Read the question back, please.

(Whereupon, the pending question was read by the reporter.)

The Witness: That question can only be answered
8939 from the point of view of a given moment of time. Who can say, at this time, what securities are in companies of erratic earning power, and what, in companies of stable earning power, as applied to the next ten years. I am speaking now of utility companies.

By Mr. Binford:

Q. And can anyone say that within the next ten years the erratic nature of the earning power may not be rather accentuated by the combination, rather than decreased by it?

In other words, the behavior of one company in respect
8940 to earnings necessarily offsets the behavior of another. Isn't it true that a depression in one may simultaneously occur with a depression in another, in their earning power? A.

—7,093—

One may speak only from past experience in that way, and it may happen that all companies will suffer, as they did in 1932 and 1933. They did not, however, suffer in the same proportion, and the combination of several companies will always give an experience that lies between the extremes of those various companies, and to that extent, stability can be achieved.

You cannot guard, by any combination, against conditions which affect all companies in the same way. You can only do so to the extent of smoothing off the effect of those changes by a combination of several companies.

Q. And as you add the number of companies in your portfolio, you necessarily increase the probability that one of them will be bad in performance? A. I would not say "probability".

Q. Possibility? A. There is always a possibility, no matter how well you pick your company, that it won't do as 8942
well as other companies, that something may be wrong.

Q. And that possibility increases in direct proportion as you increase the number of your companies in which your investments are placed? A. No, that would only be the case if the companies were selected haphazardly, but if the companies were selected with reasonable good judgment, with the expectation of their being held over an extended period,

—7,094—

you will have some cases that, in spite of you, will turn out badly, perhaps, but you don't certainly increase your risk in 8943
the sense I gathered you implied in your question, just by the number of companies that you hold.

Q. Now, referring again to the chart, Exhibit 129, I notice that the consolidated earnings represented by the black line upon that chart is stated to be Consolidated Earnings Available for Interest Charges and Dividends for The North American Company and North American Edison Company.

Since the figure for interest charges is a fixed figure, and the figure left for payment of dividends is a residual figure,

8944 *Herbert C. Freeman—By Respondents—Cross*

I presume that a line showing only consolidated earnings available for dividends, that is to say, after the deduction of interest charges, would show considerably more fluctuations than the black line on the chart, is that true? A. I will have to look at the figure to check on that.

Q. Isn't that necessarily true? A. It depends on how your average works. You are talking of averages, and not specific figures, and I never like to generalize about averages without studying the figure.

8945 I would not want to answer your question without study.

Q. Without studying the figures, isn't it a necessary conclusion that any change is reflected first in the amount of earnings available for dividends before it is reflected,—

—7,095—

rather, it is reflected to a greater extent and greater percentage in the amount available for dividends that it is in the larger amount of fixed charges plus amounts available for dividends? A. Let's look at the figures, they are here.

Before I do that, however, I want to point out one thing and it is an important factor in connection with this

8946 presentation:

That we are looking at this thing from the point of view of a cross section of the investors in The North American Company. After all, The North American Company consists of debenture holders, Preferred Stockholders and Common Stockholders and the importance of stability is just as great for the debenture holders as it is for the Common Stockholders. It is greater, in fact, because the Common Stockholder knows that he is taking a more speculative position. Now, beyond that, an investor in the Common Stock of North

American Company would be very limited as to the amount of investment he could make in the stock of these individual companies.

It is only if you take a cross section of the investment, and as you say, the Common Stockholder is a residual investor in a situation of that kind, when considering the debentures and Preferred Stock. The holder of Common Stock, if he wanted to go out and buy the same proportion in the stocks of these individual companies, would have to make an investment representing a cross section not only of his 8948

—7,096—

own Common Stock investment but of the senior capital over that particular investment, so much Preferred and so much for debentures and so on, and unless he does that, his ability to match the investment in the stocks of these subsidiary companies is limited to that extent, and his risk is accordingly increased, because instead of being able to buy the stocks, let us say, of two of those companies, and, in a sense, averaging his risks, he might only be able to invest in the stock of one company and that might happen to be at the beginning of some particular ten-year period where that 8949 company was going to run into difficulties.

Now, if you still want me to give the figures as to the results to the stockholder, the Common Stockholder, I will be glad to do that.

Q. If you please. A. The figures that are represented by that heavy black line are the figures described in about the middle of the chart Total Consolidated Earnings Available for Interest Charges and Dividends of The North American Company and North American Edison Company. Now, it was in order to make the steps in this table as simple as pos-

8950 *Herbert C. Freeman—By Respondents—Cross*

sible that we next arrived at the consolidated balance available for common dividends and surplus, that is, after deducting the interest charge and Preferred dividends of the holding companies. That is in that next line.

—7,097—

Now, as to that, the average deviation during the ten-year period from the ten-year average was 25.68 and that compares with an average deviation for the ten-year period for the eight constituent companies of 26.02. In other words,
8951 on that extremely severe test, the experience of the consolidated picture is still somewhat better than the average of the constituent companies.

Now, as to the maximum deviation of that particular line of figures on the plus side, you will see 74.15, which is shown by the figures for the year 1930. The maximum deviation on the plus side of the average of the seven companies is 55.07; also for the year 1930. So that, there is some advantage for the eight constituent companies above the average.

8952 Now, as to the maximum deviation below the average, the maximum for the consolidated figure is 42.13, which is shown by the figure for 1934, and the maximum deviation below the average for the eight constituent companies is 40.80, which is shown also for that year, 1934, so that there is practically no difference.

Q. Now, according to the same table, Exhibit No. 128, the ten-year average deviation of the consolidated available earnings available for interest charges and dividends of The North American Company and North American Edison is

16.54, is that correct? A. Yes, that is for interest charges

—7,098—

and dividends, consolidated.

Q. And that is the deviation reflected in the black line on the chart, 129? A. That is true and the fairest basis of comparison,——

Q. (Interposing) That contrasts, then, with the ten-year average deviation of 25.68 which would be applicable if the consolidated earnings were shown available for dividends as distinguished from the interest charges and 8954
dividends? A. Yes, and that is the most unfavorable comparison on this schedule, and yet, it is still better than the average for the eight constituent companies.

Now, we have two other bases of comparison on this same schedule, one is Corporate Balance Available for Common Dividends and Surplus, and the percentage of deviation from the average for ten years is only 17.71, as against 26.02 for the eight constituent companies, and the Corporate Earnings Available for Interest Charges and Dividends shows an average deviation for the ten-year period of 9.63 as against 8955
26.02 for the eight constituent companies.

So that, on any basis of comparison, the consolidated, that is to say, The North American figures, are more favorable than the eight constituent companies, and it just happens that the most unfavorable comparison which represents the maximum risk in the North American situation, that is, of the Common Stockholders, is not much better, but it is better.

—7,099—

Q. I believe you characterized the investment of North American Company in Pacific Gas & Electric Company as

a stabilizing influence upon the income of North American Company, is that true? A. That is true.

Q. And to a lesser degree, you so characterized the investment of North American Company in Detroit Edison? A. Yes, to a lesser degree.

Q. By which I presume that you meant in the case of each of these companies it includes the income received from the investment therein with the income received from the subsidiary, or other subsidiaries, of The North American
8957 Company, resulted in a more consistent and less varying rate of return upon the aggregate of the investment represented. A. It is one of the factors that has made the experience of North American Company, itself, more favorable than the experience of the constituent subsidiaries.

Q. So, if the income received from Pacific Gas & Electric Company by The North American Company has been more consistent and stable than the income received from companies which it admittedly controls—— A. (Interposing) We control the companies but we do not control the influences affecting those companies, and it so happens that the
8958 Pacific Coast tends to show a lag in changes in business

—7,100—

conditions, and on the whole, it does not seem to suffer as severely or with such a wide degree of variation as the rest of the country.

Q. Would you say the same thing as to Detroit? A. No. I indicated that as to Detroit, the element of stability was substantially less.

Q. But, nevertheless, you characterized that investment as a stabilizing influence? A. Well, to some extent. During

a part of this period the dividends from Detroit have been as high as eight per cent. and they dropped to four per cent.; then they came up to five and six per cent. They are now at six per cent.

Now, obviously, the drop from eight to four per cent. was a rather severe one, and that does somewhat militate against the stabilizing influence at that particular time. It depends upon when you start. If you start at the point where the dividends were four per cent., then the fluctuation you have upward from four to six per cent. may be a little more stable 8960 than the fluctuation upward in the case of one or two others of our companies.

Q. The fluctuations downward of Detroit Edison Company came at about the same time as a decrease in earnings on the part of Cleveland Electric Illuminating Company, did it not? A. At substantially the same time, I would say.

Q. The two companies are subject to a great number of

—7,101—

the same forces, in so far as economic conditions may affect their earnings, are they not? A. To a large extent, they are; they are in somewhat the same industrial territory. 8961

Q. Mr. Freeman, you spoke in some detail yesterday of the widespread distribution of North American Company shares of stock, pointing out that shares were held in every state in the union and other places which you named.

What proportion of those shares are usually represented at a stockholders' meeting of The North American Company? A. That has varied, of course, according to the requirement for a quorum, but where we have needed a two-thirds vote, we have received, I think, as high as,—I believe as high as 76 per cent.

Q. That was in 1939, I think that was the last occasion? A. 1939, yes. For the annual meeting where we needed only a 50 per cent. vote, I think the average representation has run between, say, 56 and 60 per cent. I am speaking now entirely from memory.

Q. Was that true of 1940? A. The stockholders' meeting in that year, 1940?

I believe we received between 55 and 60 per cent. of each class of stockholders.

8963 Q. You say "received"; you mean proxies representing that amount were given to the management? A. Let me

—7,102—

correct that.

I am speaking now entirely from memory. I believe that in 1940 we received upwards of 60 per cent. of common stock and a lesser proportion of preferred stock.

Q. At the stockholders' meeting in 1940, for example, what number of shares were represented by persons other than proxies elected by the management of North American? A. A negligible per cent.

8964 Q. Did it amount to 1 per cent.? A. I don't believe it did.

Q. Were you present at that meeting? A. Yes.

Q. How many others were present? A. Well, last year there were about 60 people, I should say.

Q. Who were the officers or persons designated by the management as proxies in the form of proxies sent out to the shareholders in 1940? A. I don't remember that. I believe I was one of the proxies and I think most likely the others were Mr. Shea and Mr. Fogarty, but I am speaking from memory.

 8965

Q. And you gentlemen who were proxies exercised proxy power in accordance with directions from the Board of Directors? A. Yes.

Mr. Binford: I have no further questions to ask Mr. Freeman at this time, but I will reserve the right

—7,103—

to recall him for further cross examination if it appears desirable, before the close of these hearings, although I have no present thought that it will be needed. 8966

Mr. Hamilton: I have a little redirect.

Redirect Examination By Mr. Hamilton:

Q. You were asked a question about percentage of proxies, and so on, at the annual meeting of North American.

Doesn't the company comply with the proxy regulations of the Securities and Exchange Commission? A. It does.

Q. And such matters as directors to be elected, and at certain dates in the past, questions of designation are required, or were required, weren't they, by those rules, to be enclosed in proxy statements submitted in connection with the solicitation? A. That is so. 8967

Q. You were asked a certain number of questions as to the proportion of earnings available for dividends of the subsidiary companies actually paid out during the period 1935 to 1940.

When I said "paid out", I am referring to paid out on the Common Stocks. Was there, during this period 1935 to

8968 *Herbert C. Freeman—By Respondents—Redirect*

1940, a Federal Statute with respect to the undistributed profits? A. As to the taxes?

—7,104—

Q. Right. A. Undistributed profits were covered by a provision in the Revenue Act during that period.

Q. Was the effect of that statute, roughly speaking, to impose a penalty for failure to declare dividends? A. That was the effect.

8969 Q. You were also asked whether or not The North American Company, as such, was subject to regulation by any State Regulatory Commissions, and I believe you answered that it was not, with a minor caveat as to the New Jersey State Corporation Laws.

In answering the question, were you aware of the existance of certain statutes in various of the states in which subsidiaries of The North American operate relating to so-called affiliate relationships, or affiliate contracts? A. I was aware of the existence of such laws; I did not make any reservation with regard to it in answer to the question.

8970 Q. In the past, certain transactions involving The North American Company, on the one hand, and subsidiaries of The North American on the other hand have been, have they not, the subject of applications to various state regulatory authorities? A. That is so.

—7,105—

Q. And also the subject of approval by those regulatory authorities? A. Yes.

Q. You were also asked as to the dates on which Mr. Shea became President of The North American Company.

8971

Did he, prior to election as President of The North American Company, serve as a director of that company? A. He did, he had been a director since, I believe, November, 1938, and had been a member of the Executive Committee. He became President in December, 1939, I believe.

Q. In discussing the personnel of The North American Company in response to specific questions, you used the term, I believe, "non-executive secretaries". Simply for the purpose of clarification, will you state whether or not that term comprehended secretaries to executives? A. That is another way of expressing it.

8972

Q. You were also asked which of the present officers of The North American Company have had engineering training.

Is it necessary, Mr. Freeman, to have a degree of Bachelor of Science in Engineering from M. I. T. in order to be able to understand or consult with operating problems of utility subsidiaries of The North American Company? A. From the point of view of operations, I would say definitely not.

Q. There are some questions of business judgment, are

—7,106—

8973

there not, in the operations of these companies? A. Most of the operations involve the exercise of business judgment.

Q. When you have devoted your life to the business of the conduct of these properties, that is, your business life, in the course of time do you get a certain familiarity with its operations?

Mr. Binford: Objected to on the grounds that it has not been shown that Mr. Freeman has devoted his life to operating problems.

Mr. Hamilton: I will qualify that.

8974 *Herbert C. Freeman—By Respondents—Redirect*

By Mr. Hamilton:

Q. During the period of fourteen years of service with The North American Company, Mr. Freeman, haven't you necessarily acquired a certain familiarity with these problems? A. I have, to a very great extent, and I have brought to them, I think, an experience gained during the previous twenty-five years.

Q. You have testified as to the length of service of certain
8975 of the other officers of North American Company, namely, Mr. Fogarty. Will you state again, how long he has been connected with The North American Company? A. Mr. Fogarty has been connected with The North American Company for thirty-eight or thirty-nine years.

Q. As a matter of fact, do you happen to know whether

—7,107—

his first job was with The North American Company? A. Yes, he has told me that.

Q. From your knowledge of Mr. Fogarty's service, are you able to state whether that length of service on behalf
8976 of The North American Company has equipped him to discuss these problems of these various subsidiaries? A. Unquestionably I should say that there are very few men better equipped to discuss any of the problems of the subsidiaries.

Q. Have you stated the length of time during which Mr. Piske has been connected with The North American Company? A. Yes, Mr. Piske, I believe, has been connected with The North American Company for twenty-nine years.

Q. Do you know whether or not Mr. Piske similarly started out his business career in The North American Company? A. I believe he had some experience before that.

Q. On the basis of your knowledge of Mr. Piske, would your answer as to his capacity to discuss problems with subsidiaries,—would it be the same as your answer in relation to Mr. Fogarty's qualifications? A. It would differ only as to degree. I think Mr. Fogarty's experience has been broader and it has been longer.

Q. Have you stated how long Mr. Sealy, formerly the Treasurer of North American, had been connected with The North American Company? A. He had been connected with

—7,108— 8978

The North American Company for thirty-five years at the time of his retirement at the end of last year.

Q. At the earlier stages of Mr. Sealy's career, had he been connected with subsidiaries of The North American Company? A. He had been connected with the Wisconsin group of companies, also with the West Kentucky Coal Company.

Q. And similarly, as to Mr. Sealy, on the basis of your knowledge as to his ability, would your answer generally be the same as you have previously given for Mr. Fogarty and Mr. Piske? A. Yes. 8979

Q. Do you regard at least certain of the executives of the operating subsidiaries as being successful operators from the standpoint of results achieved and from the standpoint of the services rendered by their respective companies by which they are engaged? A. I believe The North American subsidiaries are operated by as fine a group of men as will be found in the industry.

Q. Now, are you speaking as to personalities, Mr. Freeman, or as to results? A. As to ability and results accomplished.

8980 *Herbert C. Freeman—By Respondents—Redirect*

Q. Are all those you have mentioned persons of engineering training? A. No, not all of them.

—7,109—

Q. Can you mention a few who are not? A. As to Presidents of operating companies,—Mr. Crawford, in Cleveland, has not had any technical engineering training.

Q. Notwithstanding that, do you think that he runs his business pretty well? A. I am sure he does.

Another example, Mr. Neal, the President of the Potomac
8981 Electric Power Company; he also has not had technical engineering training.

Q. Mr. Doolittle is a director of The North American Company, isn't he? A. Yes.

Q. Has he had engineering training? A. Yes.

Q. Mr. Way is a director of The North American Company, is he? A. Yes, sir.

Q. This is the same Mr. Way who was also President of the so-called Wisconsin-Michigan group of companies? A. That is so; he has been a director of North American Company for several years.

8982 Q. He has had engineering training, has he not? A. He is very highly regarded as an engineer.

Q. Mr. Moody is a director of The North American Com-

—7,110—

pany, isn't he? A. Yes.

Q. Has he similarly had engineering training? A. Yes.

Q. And is Dr. McClellan a member of the Board of Directors of North American Company? A. Yes.

Q. And he similarly had engineering training? A. Yes.

Q. Counsel asked you certain questions as to payments of dividends by Union Electric Company of Missouri since

1935 and also with respect to Potomac Electric Power Company since 1935. He did not refer, however, to the (4) Milwaukee Electric Railway & Light Company.

What dividends were paid by it on its Common Stock in 1935. A. There was no dividend on the Common Stock of that company in 1935.

Q. And in 1936 similarly? A. Similarly, no dividend.

Q. And in 1937. A. There was no dividend that year.

Q. And in 1938? A. I don't believe there was a dividend in that year. I believe the resumption of dividends in the 8984

—7,111—

case of that company was in 1939.

Mr. Hamilton: That is all of Mr. Freeman.

Mr. Binford: I would like to ask one or two more questions in response to Mr. Hamilton's questions.

Recross Examination by Mr. Binford:

Q. You have named several of the directors of The North American Company and have spoken of their engineering experience. 8985

How many directors has The North American Company? A. Twelve.

Q. How many of those directors are salaried officers or employees of subsidiary companies of the North American system? A. Four.

Q. Is there a "Executive and Finance Committee of the Board of Directors of North American Company? A. Yes.

Q. Who are the members of that Committee? A. Mr. Fogarty is Chairman, Mr. Harrison Williams, Mr. Shea, Mr. Murnane, and I are the other members of the Committee.

8986 *Herbert C. Freeman—By Respondents—Recross*

Q. Does that Committee meet frequently. A. Fairly frequently; we meet whenever the necessity arises and we meet regularly, I would say, about once a month.

—7,112—

Q. How often does the Board of Directors meet? A. That varies; they meet, let me put it this way: The intention is that they should meet every month. Occasionally we miss a month if there is no occasion to call these busy men from out of town into New York.

8987 Q. Is the normal and usual procedure for the Executive and Finance Committee to prepare an agenda or formulate proposals to be acted upon by the Board of Directors? A. There is no broad practice of that kind, in the sense of your question. There are matters which are taken up by the Executive Committee, and then are placed on the agenda for the Directors' meeting following it, but not all of the matters that come up at the Directors' meeting are first passed upon by the Executive meeting.

In other words, there is an entirely distinct agenda for the Directors' meeting.

8988 Q. Would you say that the major portion of the business transacted by the Board of Directors is first brought to the attention of the Board of Directors by the Executive Committee? A. No, I don't think that is the case.

Mr. Binford: I have no further questions, at this time, subject to the usual reservations.

Mr. Hamilton: I object, Mr. Examiner to the reservations. —7,113—

The Examiner: The record will show these reservations and I will refrain from making a ruling until the controversy gets more acute.

Mr. Browning: I will call Mr. Myers.

Whereupon, DANIEL W. MYERS, a witness produced on behalf of the Respondents, having been first duly sworn, was examined and testified as follows:

Direct Examination by Mr. Browning:

Please give your name? A. Daniel W. Myers, of Cleveland, Ohio.

Q. What is your business? A. Investment banking.

Q. Are you a partner in Hayden, Miller & Company? A. Yes. 8990

Q. What is Hayden, Miller & Company? A. It is a partnership.

Q. Is it an investment banking house in Cleveland? A. Surely.

Q. How long have you been in the security business in Cleveland? A. Since 1899.

Q. What was your first connection in it? A. Ambrech Brothers & Company, which I left in 1906 to go with Hayden,

—7,114—

Miller & Company, becoming a partner in Hayden, Miller & Company about 1911. 8991

Q. You have been a partner in Hayden, Miller & Company since 1911? A. Yes.

Q. What is the position of Hayden, Miller in the securities distributing business in Cleveland? A. I think, over the years, and today, we are the principal investment distributing house in Cleveland.

Q. As a member of that firm, and in view of your security business experience, are you acquainted with the Cleveland security market? A. That is all I know,—is marketing, how

8992 *Daniel Myers—By Respondents—Direct*

much can you sell, and at what price,—that is all I have done for the last forty-two years.

Q. Mr. Myers, did your firm have participation in the issue by the Cleveland Electric Illuminating Company in 1935 of $40,000,000 First Mortgage 3¾ per cent. bonds? A. Yes.

Q. Will you tell us to what extent? A. $600,000 in the underwriting, $400,000 in the firm bonds, in the selling group position.

8993 Q. In the $50,000,000 issue of the Illuminating Company in 1940, did your firm have any participation? A. Yes,

$500,000.

Q. How did the bonds of the 1935 issue go in Cleveland? A. My recollection is that to the extent of our $400,000 participation, they sold well.

Q. What about the 1940 issue? A. We had the distinct impression that the bonds were over-priced at 105½.

Q. Did you get all the bonds you wanted? A. Yes. As

8994 it turned out, I think we had about $150,000 more than we needed to have to meet the demand of our market.

Q. How many security houses are there in Cleveland, Mr. Myers? A. Principal houses, I should say about eight.

Q. Is your firm the largest? A. In personnel, no. I would like to say that we are the best and with respect to high grade bonds such as you have referred to, I think we are the largest distributor in the Cleveland market.

Q. Now, Mr. Crawford has already testified here that the total of the 1940 issue which was placed through Cleveland

houses was $2,500,000, which would include the $500,000 sold through your firm.

Were your sales all made in the service area of the Illumi-

—7,116—

nating Company. A. No, I can't tell you exactly, but our territory,—we cover northern Ohio, hit the high spots in Cincinnati, and a little territory in western Pennsylvania, and so I can't tell you just how many went into there.

Q. But a part of your $500,000 bonds went well beyond the confines of the Cleveland area? A. Yes. 8996

Q. Could you have sold the latter amount in the Illuminating Company's service area? A. No.

Q. Could you handle a $10,000,000 issue of Illuminating bonds? What would be the limit? A. As I understand your question, you are asking me how much the Cleveland market could take if it had the combined distributing power of all the Cleveland houses, the eight principal dealers and all of the small dealers, and with respect to the average bond issue, which has a favorable market aspect, that is, local color in our market, the limit is about two and a half million dollars.

Q. That is, if I understand you correctly, assuming a 8997 good market, the maximum amount which all of the Cleveland dealers could sell would be about two and a half million dollars? A. In this kind of a bond.

—7,117—

Q. That is right. Now, is the limit due to any element in the reputation of Cleveland Electric Illuminating Company in Cleveland? A. No, I don't think so; it is rather to the amount of purely investment funds in the Cleveland market.

Q. What is the reputation of Cleveland Illuminating Company in Cleveland? A. I should say,—excellent.

8998 *Daniel Myers—By Respondents—Direct*

Q. Turning to Preferred Stock, Mr. Myers, the testimony in this case shows that the Illuminating Company sold Preferred Stock in 1920 and 1921 in Cleveland,—did your firm sell any part of that Preferred Stock? A. The eight per cent. Preferred, yes.

Q. Could you tell us how much your firm sold? A. In the period from September, 1920, to November 30, 1920, we sold 5,500 shares.

Q. What was the maximum commitment? A. 2,500
8999 shares; the rest of it was taken down as we sold it.

Q. So that you never assumed a commitment, even for the 5,500 shares total. A. No.

Q. You took stock down and sold it on a retail basis. A.

—7,118—

Yes.

Q. What was the situation with respect to the 6 per cent. Preferred which was sold from 1923 to 1925? A. No Cleveland house made any commitment in that 6 per cent. issue. We were offering it on a selling agency basis at what looks now like a rather handsome commission.

9000 Q. Do you recall what that commission was? A. It says here (referring to document) "3 per cent.", that is, without commitment,—that is pretty good pay.

The Examiner: We will suspend for a moment.

(Whereupon, following the taking of a short recess, the hearing was resumed.)

—7,119—

Q. What amount of preferred stock of the Illuminating Company could the Cleveland market absorb today, Mr. Myers? A. About five million on the single offers.

Q. On that again you are speaking of all of the Cleveland market? A. I am speaking, rather, of the whole Ohio market rather than the Cleveland market. You understand the distinction between, say, the two and a half million limit under favorable market aspects in the bonds yielding the lower return and the higher absorptive capacity of our market in the preferred stocks, which is characteristic of a rather newly developed and non-discriminating market.

Q. Mr. Myers, the testimony in this case shows that the North American Company owns 1,847,908 shares of the common stock of the Illuminating Company. Can you place that stock in the service area of the Cleveland Electric Illuminating Company? A. Not anything like 1,847,000 shares. 9002

Q. What amount of that common stock do you think you could place? A. Do you mean today or under normal market conditions?

Q. Under the market conditions which you have had for some time and which you expect to have for some time. A. If you were talking about today, it might be 15,000 shares. If you were talking about more normal market conditions, my

—7,120— 9003

estimate of the absorptive power of the Cleveland market within a 30-day period would be somewhere around 75,000 shares.

Q. When you say "Cleveland market," there again are you including all of Ohio? A. Yes.

Q. Are the securities of a public utility the type of investment for which a broad market exists in Cleveland? A. No. But there again it is simply that we haven't the broad market for any high-grade security yielding the minimum return.

Q. Is there any difference in that respect between Cleveland on the one side and such cities as Boston and New York on the other? A. Oh, distinctly so. It all goes back to the development of a real investment demand in a rapidly developing industrial territory, where long after I came into the business, all of the men of large wealth in Cleveland were actively engaged in business, and still are to a large degree. You don't get the strictly investment demand until the money gets into the hands of a second or third or fourth generation.

9005 The businessman, in other words, who sees himself making a large return in his own activities does not quite understand that when he invests money he is going to get a minimum return over a long period of years. So that the pity of it is that at the present time our real investment

—7,121—

market is largely limited to endowments and trust funds with, of course, a distribution to domiciled banks and in a degree to the one savings bank that we have in Cleveland.

Now, I could not guess at what the relation would be between this investment money and the total wealth of Cleve-

9006 land; but in comparison with Boston, where you have the accumulations building up over the years, the amount available there for the purchase of bonds of this sort might easily be ten times over the demand that we have in Cleveland.

Perhaps I could put it this way: If you could imagine—and it is only guesswork—that, we will say, 10 per cent. of the Cleveland wealth—of course, that is exaggerating—was available for investment in bonds of this kind, in Boston it might easily be over 50 per cent. They have not there, of course, anything like the rapidly growing investment develop-

ment which we have had for the last forty years in Cleveland, which has afforded the preferred opportunities for men of money in the Cleveland market.

Q. Do you see any likelihood of any immediate change in the present situation with respect to the limited market in Cleveland for public utility securities? A. In the immediate future?

Q. Yes. A. No. Over the years there would be a tendency to increase the amount available for investment.

—7,122— 9008

Q. Mr. Crawford testified that the Illuminating Company's construction budget is running at the rate of about ten million dollars each year, so that the company may need to have five or ten million dollars of new money each year. In your opinion can the Cleveland market supply that amount of new money to this Cleveland Electric Illuminating Company? A. No possibility.

Mr. Browning: That is all.

Mr. Binford: I have no questions. I make the same reservation as heretofore made in respect to other witnesses. 9009

(Witness excused.)

Whereupon, DUNCAN R. LINSLEY, called as a witness on behalf of the Respondents, after being first duly sworn, was examined and testified as follows:

Direct Examination by Mr. Hamilton:

Q. State your full name and address. A Duncan R. Linsley, New York City.

9010 *Duncan R. Linsley—By Respondents—Direct*

Q. Are you associated with the First Boston Corporation? A. I am.

Q. In what capacity? A. I am a vice president, director, and member of the executive committee.

—7,123—

Q. Will you state your business experience? A. I graduated from the Massachusetts Institute of Technology with the degree of Bachelor of Science in 1922, and in the fall of that year entered the employ of Harris Forbes & Company, be-
9011 coming a member of the corporate buying department in the spring of 1923.

Harris Forbes & Company, and its earlier predecessor, N. W. Harris & Company, had for a great many years been prominently identified with the financing of public utility companies. I think as a matter of fact they were the earliest house to finance such utility companies.

I remained with that organization, becoming a director in 1929; and when the Chase Forbes Corporation was formed in 1931, became a vice president of that corporation.

9012 When the First Boston Corporation took its present form in June 1934, I became a vice president and director of that corporation, and have been with them ever since.

Q. What does the First Boston Corporation do? A. The First Boston Corporation is a publicly held investment banking firm. Its business may be divided roughly into two categories: First, a day-to-day trading business in United States Government securities and in municipal and state obligations, and in corporate bonds, such as public utilities, industrials, and railroad; and in Canadian securities; and,

second, in the underwriting of new issues of such securities

—7,124—

and their distribution to the public.

Q. Do you have branch offices at various points throughout the country? A. We do. We have major offices in New York, Boston, Chicago, Philadelphia, and in ten other cities in the United States.

Q. Will you give us some idea of the extent of the underwriting business which the First Boston does? A. I think 9014
probably it is a safe statement to say that because of the training and experience of some of the members of our organization we have tended more to the financing of public utility companies in issues that are registered with the Securities and Exchange Commission than any other party.

An indication as to the size of our business is given in the Securities and Exchange Commission's Release No. 536, which shows that during 1940 the First Boston Corporation led other firms in the country in the amount of underwriting participations for issues originating under the Securities Act, the amount of our participations aggregating approxi- 9015
mately $97,000,000 or about $25,000,000 in excess of the next nearest firm.

An examination of the release also shows that the First Boston Corporation ranked first in managing the greatest amount of new issues, with approximately $237,000,000 or $30,000,000 in excess of the amount managed by the next leading firm.

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Q. Will you give us some idea as to the extent of public utilities issues in which the First Boston has headed or par-

ticipated? A. Under date of February 5, 1941, the Securities and Exchange Commission published a report covering the issuance during the 6-year period beginning with 1935 and ending with 1940 of all securities of electric and gas utilities of which the Commission has a record under either the Securities Act of 1933 or the Public Utilities Holding Company Act of 1935. An analysis of this report for the 6-year period shows that the aggregate participations of the First Boston Corporation during such 6-year period amounted to some-
9017 thing over $500,000,000 of electric and gas utility securities, which I believe was in excess of any other house in the country; and our firm participated in 205 of these issues. We headed 69, appeared second in 51, and third in 25 of such issues.

Q. Will you illustrate the issues of particular public utility companies which the First Boston has headed? A. We have headed the financing for more than forty companies scattered throughout the United States.

Q. That is since what date? A. Since the Securities Act has been in effect. Some of the more important would in-
9018 clude the Boston Edison Company, The Narragansett Electric Company of Providence, the Rochester Gas & Electric Corporation, the Duquesne Light Company, the West Penn

Power Company, Pennsylvania Power & Light Company —the latter two were joint managements with other houses—the Washington Gas Light Company, Toledo Edison Company, Indiana and Michigan Electric Company, Wisconsin Public Service Corporation, Wisconsin-Michigan Power Company, Wisconsin Gas & Electric Company,

Kansas Power & Light Company, Iowa Power & Light Company, Missouri Power & Light Company, and the Southern California Edison Company.

Q. Now, in your capacity as executive of the First Boston have you personally assumed primary responsibility in behalf of that company in the negotiations in a number of these transactions to which you have referred? A. I have. But the duties of a director and member of the executive committee, of course, includes passing on all commitments which the firm takes; and in addition, in connection with the origination and the purchase of utility securities I have had the primary responsibility in quite a few of these issues. 9020

Q. As to what issues of subsidiaries of the North American Company have you had primary responsibility on behalf of the First Boston Corporation? A. Practically all in which the First Boston Corporation headed the financing.

Q. And those you have already stated, have you not? A. I believe they are included in the list which I mentioned.

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Q. In addition to these instances in which the First Boston has headed the particular financing, have there been other issues of North American subsidiaries in which the First Boston has had a participation? A. There have. 9021

Q. Will you illustrate just a few? A. I believe it is a safe statement to make that we have been a major underwriting company in practically all of the issues of subsidiaries of the North American Company with the exception of the Potomac Electric Power Company; and in quite a few of those issues we have had second position.

9022 *Duncan R. Linsley—By Respondents—Direct*

Q. In addition has the First Boston had participation in the security issues of the North American Company itself? A. We have.

Q. Both as to the debentures and the preferred stock? A. Yes, sir.

Q. And also as to the common stock distribution in 1938? A. Yes, sir.

Q. Based on your experience in connection with the financing transactions of the North American Company and
9023 subsidiaries, to which you referred, are you able to express any opinion as to the savings or economies which those subsidiaries have obtained in ther financing operations by reason of being subsidiaries of the North American Company? A. I have.

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Q You are able to express such an opinion? A. I am.

Q. Will you do so? A. My experience in connection with, let us say two issues that I followed closely on behalf of my firm, namely, the Kansas Power and Light Company and the
9024 Missouri Power and Light Company—as a result of my experience with them I am of the opinion that there were decided savings to those companies because of their being affiliated with the North American Company and having the benefit of the experience of the executives of that organization.

Q. You spoke of issues of the Kansas Power and Light Company. Will you give us a little more facts in that regard? A. Prior to 1935 the two major properties which are now a part of the Kansas Power and Light Company, namely, Kansas Power and Light Company and the United

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Power and Light Corporation of Kansas, were not at all well known from a credit point of view, and their securities were not held by the more informed buyers.

Kansas Power and Light Company had its origination as a means of financing the old Tecumseh plant. It was purely a generating company, and in time gradually broadened the type of its business to include the distribution of electrical energy as well as generation, and also got into the gas business.

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The United Power and Light Corporation of Kansas—I remember in the middle 20's several issues of bonds for that company which the old Harris organization handled, which took three to four weeks before they were disposed of. It was a question of going out and finding buyers and educating them on what the company was.

In 1935 there were five companies, I believe, put together through a merger or consolidation to form the present Kansas Power and Light Company, which included the United Power and Light Company of Kansas; and at the time there were eight separate bond issues on the constituent companies bearing coupon rates of 5 and 6 per cent., aggregating approximately $25,000,000 principal amount.

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An analysis of the institutional holdings of the bonds of the Kansas Power and Light and United Power and Light, two of the major constituent companies in the consolidation, as taken from Poor's Insurance Company Holdings as of the end of 1934, that is, as of December 31, 1934, which was published in their edition of 1935, shows that only slightly over $2,000,000 of the obligations of those two companies were held in institutional hands throughout the country. That includes in addition to the life insurance companies, of

9028 *Duncan R. Linsley—By Respondents—Direct*

course, fire, casualty companies and various funds of societies of one kind or another.

As I have indicated, the credit was unknown.

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Under North American supervision a plan was worked out for the consolidation of these properties and the creation of $30,000,000 of first mortgage bonds, first mortgage 4½ per cent. bonds, which were sold at the end of 1935 at a price of 103 to the public.

9029 That sale was effectuated only after considerable work on the part of our organization in talking, prior to the distribution, with a great many institutions in various sections of the country. I personally, for example, made trips to places like New England, Hartford, various institutions in and around New York City, Philadelphia, Milwaukee, getting what we called the build-up for introducing that credit to the public.

And I may say that one of the important factors and one of the things that was very helpful in arriving at the successful sale of those issues was the fact that the Kansas Power and Light Company was controlled in the North American

9030 system, and the assurance of that management meant a great deal to the frame of mind in which the buyers approached the issues.

Q. Did the fact that Kansas Power and Light Company was a subsidiary of the North American Company in your opinion improve the credit position of its securities offered in 1939? A. It did. In 1939 a plan was devised for the refunding of the 4½ per cent. bonds through a new issue of $26,500,000 of first mortgage 3½ per cent. bonds.

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Those bonds were sold to the public at a price of 108½, which was the highest premium that any public utility offered security had been sold at with the exception of two very small issues. One, as I recall it, was Newport Electric, which was about $300,000 principal amount; and the other was the Madison Gas & Electric, which was done as a private deal, and which, as I recall, was about one million dollars.

That was the highest offered price of any issue on record up to that time.

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I am convinced in my own mind that while, of course, I think the First Boston Corporation had a lot to do with it. I think that the fact that the Kansas Power and Light Company was a part of the North American Company system did help materially in achieving the results that we were able to—the aid of that plus good salesmanship on our part.

Q. Did the same practice exist in connection with the preferred stock financing in 1940? A. Yes.

Q. Would your opinion be the same with respect to that financing? A. It would.

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Of course, in the case of the preferred stock financing the bulk of it involved an offer of the new 4½ per cent. preferred stock to the existing stockholders of the Kansas

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Power and Light Company.

Incidentally, the price of the preferred stock of 103 was exactly the same dollar price that the first mortgage bonds were sold at in 1935, which shows, in addition to probably some improvement in the market, the long way the Kansas Power and Light Company had gone in establishing its credit generally throughout the country.

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Q. What is the present market price of that preferred stock? A. The preferred stock at the present time is quoted at about 102½. Approximately thirty days ago it was quoted as high as 106 bid.

Q. Is that the first Kansas public utility sale of 4½ per cent. preferred stock? A. It is the only one.

Q. Have there been other preferred stock issues of other Kansas Public utilities in this year? A. There have.

Q. By what company or companies? A. There was a

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recent issue of the Kansas Electric Power Company of 5 per cent. preferred.

Q. You also referred to the financing transactions involving securities of the Missouri Power and Light Company. Did the fact that the Missouri Power and Light Company was at the time of those transactions a subsidiary of the North American Company improve its credit position? A. It did.

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In the case of the Missouri Light and Power Company, that company likewise was virtually an unknown credit prior to the time the deal was done in December, 1936, which

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involved the sale of $9,000,000 of first mortgage 3¾ per cent. bonds and 15,000 shares of 6-dollar preferred stock.

The Poor's 1936 edition of the Insurance Company Holdings as at the end of 1935 shows that about $1,800,000 of bonds to be redeemed were held in so-called institutional hands.

Following the practice of introducing the credit, I again personally made these trips to talk to institutions. Other members of our organization also talked with a great many of them; and I can recall distinctly that the opinion was ex-

pressed to me by one or two of the buyers that they would not consider purchasing these bonds at the premium of 102 were it not for the fact that the Missouri Power and Light was a part of the North American system; and it was that factor really that in the last analysis was to a large degree responsible for the investment of certain funds in that company.

Q. Is the element of geographical diversification in the North American system an element of value to the North American Company's securities? A. In my opinion it is. 9038

During the middle 20's the North American Company

securities were highly regarded by the investment public generally; and the combination of the conservatism of their policies, together with the geographical distribution of the properties which led to the belief that there would be a stability of income, made the North American securities very popular with the investing public; and relatively that popularity still exists today.

Q. Does absence of diversification in the case of securities of other holding companies constitute a source of weakness? A. I think it does, in my opinion. 9039

Q. Will you illustrate? A. I think one example, without reflecting in any way on the company, is the case of the Standard Gas & Electric Company debentures, 6 per cent. debentures, which for a period of some time sold in a range between 75 and 80 per cent. of par. They have been a little higher more recently.

I am of the opinion that the fact that the Standard Gas derives nearly 50 per cent. of its income from the common

9040 stock dividends of the Philadelphia Company, operating in and around Pittsburgh, has contributed to the discount at which those debentures sell, on the fear that if Standard Gas for one reason or another would be deprived of that income or there was a substantial reduction in it, the margin available to cover the fixed charges would be drastically reduced.

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I don't remember the figures exactly, but I believe that the cash income of the Standard is approximately $6,000,000,
9041 and that the interest charges are approximately 4½ million dollars. So that the elimination of the dividend income from the Philadelphia Company would, of course, have a very serious effect; and I am of the opinion that that fear is reflected in the flotation for those securities.

Q. Has First Boston in recent years headed the underwriting group in connection with the offerings of public utility common stocks? A. We have, either alone or jointly.

Q. Will you mention a few? A. We headed the underwriting group which offered the Washington Gas Light common stock to the public. We were joint manager in the
9042 distribution of 160,000 shares of the West Penn Power common stock, and a joint manager in the issuance to the public of approximately 714,000 shares of the Indianapolis Power and Light Company common stock, a major portion of which was distributed as portfolio assets, I believe you would call it.

Q. Have you any data in those instances to indicate the extent to which these common stocks were placed originally in the States in which these utilities operated? A. I have.

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I might add that it has been a practice of our organization upon the completion of a piece of financing to send out a questionnaire, not only to the members of the underwriting group, but also to the selling members, asking them for their retail distribution by States. We have kept records to show where the securities have eventually found their resting place on the original or final distribution.

In the case of Indianapolis Power and Light Company, which involved a dollar offering of approximately $16,000,000, there were 93 underwriters in the business. There were 9044
761 dealers throughout the country invited into the selling group, and there were about 470 additional dealers that actually took down stock for sale. So that there was a total of close to 1,300 investment firms which participated in the offer.

Q. In that connection, if I may interrupt: In forming the underwriting group and also the selling group, was any effort made to insure participation by Indiana dealers? A. There was. It was the urgent request of the management of the company that practically all of the responsible houses in Indiana be included in the business as underwriters, and 9045
that as much stock be placed in the State as could be sold, without, of course, damaging the success of the deal. Obviously, you cannot burden one State with too much stock and have it sold back on other markets or else it ruins your distribution. But every effort was made to comply with that

request.

The average sale in this operation was approximately 90 shares of stock, and the records show that the retail distri-

9046 *Duncan R. Linsley—By Respondents—Direct*

bution in the more important states was approximately as follows, expressed in percentages:

In New York State 24.4 per cent.,

In Illinois 15.6 per cent.,

Indiana, 11.7 per cent., or approximately 90,000 shares in Indiana——

Q. That is, for the entire State? A. That is correct, or something over $2,000,000 of the dollar amount of stock.

9047 Massachusetts 10.6 per cent., Pennsylvania 5.4 per cent., California 4.3 per cent., and so on down.

Q. What happened in the case of the Washington Gas Light offering? A. In the case of the Washington Gas light we undertook in August of 1934 to sell 362,000 shares principal amount. There were 35 underwriters. There were 695 dealers invited into the selling group, of which 251 accepted the invitation and 444 politely declined.

Around 300,000 shares were distributed at that time and in January the remaining 60,000 shares were underwritten by 33 underwriters with approximately 240 dealers invited

9048 into the business.

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The record of distribution of those two obligations shows the distribution as follows: New York 24.2 per cent., District of Columbia 21.6 per cent., or approximately 80,000 shares of stock; Massachusetts 10.9 per cent.; California 6.1 per cent.; Illinois 4.5 per cent.; Connecticut 4.4 per cent.; Maryland 4.4 per cent.; Pennsylvania 4.0 per cent.

In this case, as in the case of the Indianapolis Power & Light Company, the management requested that every consideration be given to local houses; and I believe it is a

fair statement to say that the dealers in and around Washington had every opportunity to sell as much of that stock as the market would take.

Q. Now, in the transactions involving the bond issues by North American subsidiaries, have you any data to show the extent of placing the bonds in the States in which those companies operated? A. I have.

Q. Will you give us the facts? A. These percentages refer to the retail sales by both underwriters and selling group members. In the $30,000,000 issue of first mortgage 4½ 9050
per cent. bonds of the Kansas Power and Light Company there were 13 underwriters and 480 dealers invited into the selling group, of which 476 accepted.

Q. Did those include all responsible Kansas houses? A. They did.

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Our records show that the distribution by States was approximately as follows: New York 43.8 per cent., Massachusetts 10 per cent., Illinois 8.4 per cent., Pennsylvania 7 per cent., New Jersey 3½ per cent., Wisconsin 3.2 per cent., California 2.9 per cent., Connecticut 2 per cent. 9051

Those constituted 81 per cent. of the distribution.

It shows that $121,000 of the principal amount of the bonds were sold in the State of Kansas, or .4 per cent., less than one-half of one per cent.

Q. Were the Kansas underwriters or dealers allocated in this case all the bonds that they could take? A. All the bonds that they asked for. Yes.

In the deal of July, 1939, which involved the sale of $26,500,000 first mortgage 3½ per cent. bonds of the Kansas

9052 *Duncan R. Linsley—By Respondents—Direct*

Power and Light Company, there were 36 underwriters, and 441 selling group members.

The distribution figures show that retail sales were: New York State 33 per cent., Massachusetts 7.2 per cent., Illinois 6.4 per cent., Pennsylvania 7.9 per cent., New Jersey 7 per cent., Wisconsin 6.3 per cent., California 3 per cent., Connecticut 6½ per cent., constituting in those States approximately 78 per cent. of the distribution. $175,000 principal amount of bonds were retailed in the State of Kansas or
9053 approximately six-tenths of one per cent.

Q. Was the same policy pursued with respect to attempts

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to get local participation and local placement of the bonds? A. We attempted to follow that policy in Kansas.

Of course, you understand that in the last-named deal the bonds were approximately on a 3 per cent. basis. There just was not a demand in that State for that very low interest rate for a 30-year period.

Q. Now, can you give us briefly the comparable data as to the financing transactions of the Missouri Power and Electric and Wisconsin Gas and Electric and Wisconsin-
9054 Michigan? A. In the $9,000,000 of Missouri Power and Light first mortgage issue there were 12 underwriters and 48 members of the selling group. The retail distribution shows New York State 28 per cent., Massachusetts 10.6 per cent., Illinois 8.7 per cent., Missouri 8.3 per cent., Wisconsin 5 per cent., and Vermont 3.8 per cent., which accounts for approximately 65 per cent. of the total retail sales.

I might add that prior to that piece of business being done we sent one of our men into the territory, who spent about

two weeks' time with members of our St. Louis office talking about the virtues of the Missouri Power and Light Company. We put on a special drive to see what we could do in the way of distribution in that State, which I think accounts for the fact that that amount of bonds went into the State of Missouri.

Q. Could you state the percentage of bonds that did go

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into that State? A. Yes. About 8.3 per cent.

Q. And that included St. Louis as well as the entire 9056
State? A. Yes. It included St. Louis.

Q. Very briefly, what were the results in the case of the Wisconsin Gas and the Wisconsin-Michigan as to placement in Wisconsin? A. In the Wisconsin Gas & Electric ten-and-a-half-million issue 16.4 per cent. of the bonds were retailed in the State of Wisconsin, with approximately 43 per cent. in New York State.

Q. The Wisconsin figures include the entire State? A. The entire State. The bulk of the sales would probably be in and around Milwaukee.

Six States accounted for about 85 per cent. of the distribu- 9057
tion.

In the case of the Wisconsin-Michigan Power Company likewise there was a ten-and-a-half-million-dollar issue, with 12 underwriters and with 96 selling group members. 16.6 per cent. of the bonds were retailed in the State of Wisconsin, with 44.6 per cent. being sold in New York State.

Those bonds, I might add, were legal for savings banks in New York State at that time. We were in a market where

9058 *Duncan R. Linsley—By Respondents—Direct*

the savings banks and trust funds in New York were active

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buyers of these high-grade utility securities.

Q. Do you happen to have the percentage of the placement in the State of Michigan in the case of the last-named company? A. I can get it if you want it, in the record, which is right here.

Q. Will you do so? A. There were $43,000 principal amount of bonds sold in the State of Michigan at retail, or
9059 four-tenths of one per cent.

Q. In these last two named cases, that is, Wisconsin Gas and Wisconsin-Michigan, was every effort made to obtain the greatest possible local placement? A. There was.

Q. On the basis of the First Boston's experience what would you say as to in what States the best investment markets exist? A. Of course, it follows really the law of supply and demand. Our records show that for the 6-year period from 1935 to 1940 the First Boston Corporation headed syndicates involving the distribution of about a billion and two hundred millions of securities. The entire
9060 retail distribution by States of that amount of securities expressed in percentages was as follows: New York State 32 per cent., Massachusetts 12.2 per cent., Pennsylvania 10.4 per cent., Illinois 6.8 per cent., California 4.7 per cent.,

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Connecticut 4¼ per cent., Wisconsin 3.6 per cent., and New Jersey 3.4 per cent.

Q. These percentages relate, do they, to the underwritings and participations of all members of the selling groups or the underwriting groups in each case? A. That is correct.

Q. They are not simply the First Boston's distribution? A. It is all underwriters and selling group members who pursuant to our request have answered the questionnaire regarding the geographical retail distribution of the securities.

It is rather interesting to note that the first three States of New York, Massachusetts, and Pennsylvania accounted for 54½ per cent. of the total buying, and that the eight States which are mentioned accounted for about 77 per cent. of the total distribution. 9062

Q. Has it been your experience that it is harder to sell public utility common stock than it is to sell public utility bonds or preferred stock? A. Very much so.

I think there is one thing that is interesting in connection with that question about the North American diversification of their property, and that is the fact that in spite of the conditions that have been existing today, a study of the article entitled "Fifty Stocks Investment Trusts Pre-

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fer," which appeared in Barron's Financial Weekly of February 10, 1941, shows that of a list of fifty stocks that were 9063 held in investment trusts, the five most popular stocks are as follows: Chrysler Corporation was held by 45 trusts, Montgomery Ward by 41, Kennecott Copper by 41, North American by 40, Union Carbide and Carbon by 40; and if you go down the list it is rather significant, I think, to find that the American Gas & Electric Company common stock is held by 27 trusts; the Commonwealth Edison Company, which in the trade is looked upon as one of the most popular utility equities today, is held by 18 investment trusts.

9064 Q. Those are the only utility holding companies, I suppose, or are there others? A. No. There are included in the list of the fifty, lower down, at the end of the list, Niagara Hudson Power common and the Commonwealth and Southern preferred stock.

But the thing that is striking is the fact that the North American today ranks right up with the leading stocks in the country as being the most popular with a type of buyer that is pretty well informed on current conditions.

9065 Q. And that is the North American common stock, is it? A. That is the North American common stock.

While I don't know what is in the minds of these investment groups, I am of the opinion that the combination of the regard in which the management is held together with

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the diversification in their earnings power, is probably largely accountable for that size holdings.

Mr. Hamilton: That is all.

9066 (Whereupon a recess was taken from 12:55 to 2 o'clock p. m.)

AFTER RECESS

The hearing was resumed at 2 o'clock p. m., at the expiration of the recess. DUNCAN R. LINSLEY, the witness on the stand at the time of taking the recess, resumed the stand and was examined and testified further as follows:

Cross Examination By Mr. Binford:

Q. Mr. Linsley, you spoke of the attractiveness in the 20's of the securities of the North American Company from 9068
the standpoint of diversification of the holdings of the North American Company. Do you know what the diversification of holdings consisted of at that time of that Company of which you spoke? A. I believe, just from memory, without having refreshed my memory, that in the middle and late 20's with the exception of the North American Light and Power group of properties, that the major properties were substantially the same as they are today.

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Q. Do you feel that the additional investments made in North American Light and Power Company by the North 9069
American Company in the period subsequent to 1930 increased the attractiveness of the North American Company securities by reason of the diversification effected? A. No. I wouldn't necessarily say so. I think that the increased investment in the North American Light and Power Company to some extent at least was brought about by conditions over which the North American Company had no control.

Q. However brought about, the result was a distribution of the investments in the aggregate for the North American

Company over a greater spread of properties than it was theretofore? Is that correct? A. That is correct.

Q. In other words, a greater spread of diversification of the investments sold? A. Well, you might say, a greater geographical diversification. But, if my memory is correct, from the standpoint of the North American Company proper, they haven't had any benefits in the form of income from their equity holdings in the North American Light and Power group.

9071 Q. So diversification in and of itself does not necessarily result in benefits to a holding company, does it? By diver-

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sification I mean geographical diversification. A I think that geographical diversification is of considerable value to a holding company. Of course, with that you have got to have good management, intelligent management. You have also got to have materials with which to work. I mean by that that you have got to have materials in the operated operating, which, after all, are the source of earnings and earning power to the security holders, the original source of

9072 such earning power.

Q. Prior to the investment by the North American Company in the North American Light and Power Company system the North American operating properties were very largely in large urban and industrial centers, were they not? A. That is correct. But scattered geographically.

Q. But the principal operations were, I believe, in St. Louis, Cleveland, Washington, D. C., and in Milwaukee? A. In Milwaukee, and to a certain extent there was a diversity of income from their holdings on the Pacific Coast, of

which the most important city, of course, would be San Francisco.

Q. And, of course, there was present a further investment in the Detroit Edison Company, which was also operated in an industrial section of the country? Isn't that true? A. That is correct.

Q. What was the period covered by your statements relative to the participation of the First Boston Corporation

in utility underwritings? A. Which underwriting do you 9074
mean? My statement about the aggregate of what we have done or the statement with respect to the North American financing?

Q. The North American financing. A. Since the inception of the Securities Act of 1933.

The first issue headed by the First Boston Corporation of a subsidiary or affiliated company of the North American system was in November, 1935, at the time the $30,000,000 of bonds of the Kansas Power and Light Company first mortgage bonds were sold.

Q. That syndicate was headed, you say, by the First 9075
Boston Corporation alone? A. The First Boston and Dillon Read and Company.

Q. When was the First Boston Corporation organized? A. That is a little complicated story, but briefly, it took its present form in June, 1934.

Pursuant to the Banking Act of 1933 the security affiliates of national banks were required to be dissolved, and a deal was worked out with the First National Bank of Boston and with the Chase National Bank whereby the First

of Boston Corporation, which was then in existence as a security affiliate of the First National Bank of Boston, changed its name to "The First Boston Corporation" and its stock was offered to the stockholders of the Chase and the stockholders of the First National Bank of Boston; and in

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turn the stockholders of each would have the right to subscribe to not more than 45 per cent. apiece under the terms of the Banking Act; and at that time certain executives and
9077 personnel that had formerly been with the Harris organization joined with the personnel of the First Boston to form what I call the First Boston Corporation when it took its present form in June, 1934. That may sound a little complicated, but in essence that is what the transaction was.

Q. What was the next issue of the North American system in which the First Boston Corporation participated? What, rather, was the first after the formation of the First Boston Corporation? A. You mean now any participation rather than our having headed the business?

Q. Yes. But not excluding that which you headed. A.
9078 I believe the first issue was the $40,000,000 principal amount of the Cleveland Electric Illuminating Company, then called the general mortgage (now first mortgage 3¾ per cent. bonds due 1965, which were offered to the public on July 15, 1935. I believe that that was the first North American Company subsidiary financing in which the First Boston Corporation participated as one of the underwriters.

Q. What was the extent of the participation of the First Boston Corporation? A. I don't believe that I have that record available with me.

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Q. Do you recall who headed the underwriters, the syndicates? A. Dillon Read Company, and I believe from memory that the First Boston Corporation appeared in second position in the business.

Q. What was the next issue of the North American Company or its subsidiary companies in the underwriting of which the First Boston Corporation participated? A. The next issue of a subsidiary of the North American Company in which the First Boston Corporation participated was the $30,000,000 first mortgage bond issue of the Kansas Power 9080
and Light Company, which I referred to a few moments ago, which was offered on November 25, 1935.

Q. And that was the issue in which the First Boston Corporation shared with Dillon Read? A. That is correct. The First Boston appeared as leader of the financing, but managed the issue jointly with Dillon Read and Company.

Q. What was the next issue of the North American system in which the First Boston participated? A. I believe the next issue was an issue which First Boston Corporation headed, namely, $10,500,000 of first mortgage bonds of the Wisconsin Gas & Electric Company, offered to the public 9081
on April 20, 1936. This issue was headed by the First

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Boston Corporation.

Q. Not with any other underwriting firm? A. That is correct.

Q. And the next issue of the North American Company system in which the First Boston Corporation participated as underwriter was what? A. When you refer to the system, I am excluding the issues of the Pacific Gas & Electric Com-

pany and the Detroit Edison Company, in which the North American Company has a substantial minority interest.

The next issue we did not participate in, which was the Potomac Electric Power, which was offered in June, 1936.

Q. Do you know what underwriting firm managed that issue? A. As I recall it from memory, those bonds were offered for competitive bidding.

Q. Under a rule of the Public Utilities Commission of the District of Columbia? A. That is my recollection.

9083 The next issue which the First Boston Corporation participated in was one which we headed, namely, $10,500,000 of first mortgage bonds of the Wisconsin-Michigan Power Company, offered July 31, 1936, such issue being managed by the First Boston Corporation alone.

Q. Will you take up the next one?

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Mr. Hamilton: There are quite a good many of them.

By Mr. Binford:

9084 Q. How many of these issues were there of the North American system in which you participated since the date of the organization of your corporation, approximately? A. I couldn't tell you the number without referring to the records. I believe that we have participated in, as I testified before, practically every issue with the exception of the Potomac Electric Power.

Q. Do you recall how many of those issues were headed in respect of underwriting by firms other than the First Boston or Dillon Read? A. I don't recall. I wouldn't want

to answer that without looking over the entire list to make sure.

May I inquire whether counsel's question is limited to situations where the First Boston itself has headed the participation or whether he refers to all of the North American?

Q. The question as stated referred to those only in which the First Boston participated. A. I couldn't give you the answer to that without looking it up.

Q. Do you recall a single instance in which an issue was made through underwriters in which either Dillon Read or 9086
the First Boston Corporation was not a principal underwriter or manager? A. Yes, I do, now that I think of it. The

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issue of Wisconsin Gas & Electric Company 4½ per cent. preferred stock in July, 1939. The issue of Wisconsin-Michigan Power Company 4½ per cent. preferred stock in December, 1939. The issue of Wisconsin Electric Power Company 4¾ per cent. preferred stock in May, 1940. If my memory is correct, these three issues were headed by houses other than Dillon Read or the First Boston Corporation.

Q. In each instance the house heading the issue was a 9087
local dispensing house, was it not? A. I believe that the house heading the issue was The Wisconsin Company.

Q. And the preferred stock was issued in connection with an exchange in each of those cases for previously outstanding preferred stock largely held within the State of Wisconsin? A. That is my recollection, although I am not certain whether there was in any of these cases any stock offered for cash.

Q. But insofar as national distribution had been considered, that is, distributions which were not largely within one State, do you recall any instance in which Dillon Read

9088 *Duncan R. Linsley—By Respondents—Cross*

or First Boston Corporation have not headed the underwriting syndicate involved? A. I do not remember any at the moment.

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Q. In connection with the underwriting of bond issues does the First Boston Corporation in cases in which it is a principal underwriter assist in the formulation of the plan of financing adopted, that is to say, the indenture provisions and matters of that kind? A. We do.

9089 Q. To what extent do you assist the issuing company in that respect? A. The practice varies a great deal in different cases, so that you cannot make a general statement that would be applicable to all situations. In general it is our practice, preliminary to doing a piece of business, to have thorough discussions in our own organization as to the form of the financing, as to the market prices which might be realized or the types of securities to be offered, and as to a general outline of the major indenture provisions which we feel are necessary.

9090 These items, of course, we are in a position to have an opinion about due to our day-by-day dealings in securities. We are familiar with where the market exists at the moment in particular types of securities, what the market is willing to pay for those types of securities, and what the market demands in the way of what they consider appropriate indenture provisions.

It is then usually the practice to sit down and discuss

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in some detail with the company officials different aspects in connection with the financing of the enterprise. There

are a great many points of difference that are discussed pro and con. Oftentimes we find from experience that there are certain quirks to mortgage provisions that they have learned by experience can be improved upon to simplify the operation under the indenture or to save expenses. There is a general exchange of ideas with the company officials which after a period of time results in the child being born.

Q. Now, do insurance companies and other institution investors from time to time seem to acquire a liking for new types of indenture provisions with which they have become 9092
familiar or which they have formulated? A. They do.

Q. Have you kept in touch with that tendency upon the part of institution investors? A. We have.

Q. How large is your staff? A. We have approximately 400 employees.

Q. Among those employees are there any persons who specialize with indenture provisions? A. Yes. There are, I should say, probably eight or ten individuals.

Q. In connection with underwriting bonds issued under indentures, do you employ attorneys at law in your under- 9093
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writing operations? A. We do.

Q. Do you have such counsel regularly retained? A. Not regularly retained. We use several firms for that work.

Q. You, of course, select the firms with regard to their corporate experience and ability? A. That is correct.

Q. What is the largest utility bond financing that you recall that your company has participated in in which the issuing company was not a subsidiary of a registered holding company? A. On October 9, 1940, the Southern California

9094 Edison Company issued $108,000,000 principal amount of first and refunding mortgage of 3 per cent. bonds, which financing was headed by the First Boston Corporation. I believe that is the largest issue that we headed to date. We have also participated as one of the major underwriters in the financing of the Commonwealth Edison Company.

Q. What was the time of the issue of the Commonwealth Edison Company in which you participated? A. There were several deals during 1938 and, I believe, 1939; but, as I
9095 recall now, those were small. The large Commonwelth Edison Company was the private deal done directly with the insurance companies.

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Q. In respect to the private deal done direct with the insurance companies do you recall the amount involved? A. As near as I can recollect, it was about $114,500,000.

Q. Do you recall the cost of the money to the company? A. Not offhand. No, sir.

Q. Would you state approximately what it was, as near as you can recall? A. I don't recall. It doesn't show in the
9096 report of the Public Utilities Commission and the Securities and Exchange Commission. I recall now why it doesn't because it was neither registered under the Securities Act nor under the Public Utilities Holding Act. I don't happen to remember offhand.

Q. Do you happen to remember offhand how the price paid for the money securities at this private sale compared with the price being paid by other utility companies for money at the same or at approximately the same time? Was it lower or higher than was being paid by subsidiaries of

other holding companies of at all comparable characteristics? A. I do remember that there was a lot of talk at the time about the price at which the issue was sold, and a feeling on the part of a great many people that the company could have done better with a public distribution of the securities. It just happens that I knew at the time that the war clouds were gathering abroad, and there was no telling what might

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develop from a market point of view over the period of 90 days' time, and that the management of the Commonwealth 9098
Edison Company after considering the matter very thoroughly decided that they should move with speed, and they chose to do a private deal because by the time they got through registering that deal and waiting the 20-day period, perhaps 60 days or 90 days might elapse and they might miss the market.

That, incidentally, was prior to the time that the Securities and Exchange Commission worked out the mechanics for acceleration of the registration statements.

I also recall that while the money did look as though it 9099
was a little higher than could be obtained, I personally had some sympathy with the management of the Commonwealth Edison Company's point of view, because the outlook was so dark abroad that it was a pretty moot question as to whether the management wanted to gamble on a 30-or 60-or 90-day delay; and the only way you can tell you are right is looking at it in retrospect.

Q. Do you think that the Commonwealth Edison Company had to pay a higher price for the money which it secured through this bond issue than it would have had to pay if it

had been a subsidiary of a registered holding company? A. I don't see how you could really answer that question. It is really little hypothetical.

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Q. Yes. It is hypothetical. A. I don't know how you would answer it, frankly.

Q. Don't you have any opinion upon that subject? A. I know that the Commonwealth Edison Company is from a credit point of view very highly regarded among in-
9101 vestors.

Q. You say it is so regarded in spite of the fact that it is not a subsidiary of a registered holding company, or is the fact that it is not a subsidiary of a registered holding company—does that have nothing to do with the question? A. I think it is highly regarded because of the fact that it is servicing a very important section of the country, namely, in and around Chicago; and its policies have been conservative.

Q. Its last bond issue, the Cleveland Electric Illuminat-
9102 ing Company, received a very good price for its bonds, did it not, in comparison with the price obtained by other companies? A. It did.

Q. Do you attribute that fact to the credit standing of that company or to the prestige associated with its holding company connection? A. I think that the credit standing of that particular company plus the fact that over a long period of years it had the benefit of the North American

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Company management were responsible for getting the price that it did.

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Q. You mean that it probably reached its credit standing because of the efficiency of the previous North American management, that is, the North American management brought it up to the position which it occupied at the time of this bond issue in respect of credit? Is that it? A. I think that credit is not created overnight. Credit only results over a period of time, and I think that the fact that it was managed by the North American Company had a lot to do with establishing that credit over a period of years.

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Q. It is your opinion that if the North American Company were not the majority stockholder of the Cleveland Electric Illuminating Company, the credit of the Cleveland Electric Illuminating Company would decrease? A. Well, that is a rather difficult question to answer. From the standpoint of the senior credit, and by that I mean the first mortgage bond credit, that is already established today. When you get down to the step when it is your equity credit, all of which goes to make up you equity credit—by equity credit I mean the preferred and common stock—with respect to common stock, I am certain that one of the most important factors that would have to be answered if that common stock were publicly distributed, let us say, would be the manage-

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ment aspect of it. At least, that has been our experience in the reaction in the minds of investors in some of these other common stock fields that we have had anything to do with.

Just for example, there was a great deal of discussion, and has been a great deal of discussion, on that point in this issue that was offered today of the Connecticut Light and Power Company.

9106 Q. Mr. Hamilton asked you several questions bearing upon diversification as a factor in investment value. In your answers you cited the Standard Gas and Electric Company system as a case in which there was a large concentration in that company in one particular locality, namely, in and around Pittsburgh. It is true, is it not, that until recent months the Standard system has controlled the San Diego Gas & Electric Company, operating in and around San Diego, California, and the Mountain States Power Company oper-
9107 ating in the Pacific Northwest, and the California-Oregon Power Company, likewise operating in the Pacific Northwest? A. It is true that they have until recently had control of those properties. But, if my memory is correct, for quite a period of time they received no income on either Mountain States or California-Oregon Power Company; in the case of Mountain States because of the fact that that company had arrearages on their preferred stock, and likewise in the case

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of the California-Oregon, that it had arrearages and, I think, still has on its preferred stsck, so that there was no
9108 income coming to the Standard Gas and Electric Company on those equities.

So that while they had title to those assets, there was no diversification with respect to those as far as income is concerned.

Q. The Standard System also controls the Northern States Power Company of Minnesota and the Northern States Power Company of Wisconsin, does it not, operating in those respective States? A. I am pretty certain they don't control the Northern States Power Company of Minnesota. All

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that stock is owned by the Delaware Company, and they have no voting control of the Delaware stock. They certainly haven't been getting any income on it.

Q. You know, however, that the companies which I have named are subsidiaries of the Standard Gas and Electric Company within the meaning of the Public Utility Holding Company Act and are subject to regulation thereunder? A. I presume so. I don't know just what the definition of a subsidiary company is in the Holding Company Act. It is certainly an affiliated company. But in the case of the Northern States Power Company of Delaware, there is no voting control there, and there is no income coming to Standard

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from those holdings.

Q. Of course you are confining your answer to the present time as distinguished from the past? A. Yes. But to the best of my knowledge and belief, there has not been any income for some years on that. That is, I mean, certainly not in the last three or four years.

Q. When you spoke of the Standard System as being one not characterized by diversification, you were referring to the fact that its income had practically ceased in respect of any properties except those in the Pittsburgh area? A. No. I meant——

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Q. In that its original investment had not been made on a deliberate geographical basis. A. No. I meant that the income is, and has for some period in the past been, to a great extent dependent on the income from the Philadelphia area, and that there is no geographical distribution of income, as there has been for some of the properties.

Q. Even though there is geographical distribution of the investments? A. Even though there may be some geographical distribution of the investments. But, as near as I can recollect, it has always been true that the bulk of the Standard income has come from the Philadelphia area.

Q. By Philadelphia area you mean the area served by

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the Philadelphia Company? A. The area served by the subsidiaries of the Philadelphia Company, which in itself is a

9113 holding company.

Q. Is there a term in general use in investing banking circles of "historic position" with reference to the relationship of an underwriting firm to the issuer? A. There is.

I might add that the general feeling, I know, insofar as our firm is concerned, is that if we have done a good job for the company in the past, and have worked, as we feel we do, in the interests of the company in trying to secure prices that are fair both to the company and to the investing public, that certainly that performance of service should be an element of consideration when the next piece of business comes

9114 along.

Q. Would your firm likewise hesitate to approach a prospective issuer with a view to heading an underwriting when you knew that for many years past another investment house had usually headed its issues, that is, the issues of this particular prospective issuer? A. If we felt that a company had a favorable relationship with a banking house over a long period of years, and that house had performed for the company, we would not go out and aggressively try to take the business away from them. At the same time, it

would not preclude us from talking with the company and

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giving the benefit of whatever ideas we had. On the other hand, if we felt that a house had not performed, or had reasons to believe that they had not performed, we would have no hesitancy about talking to the company about it.

Q. Do you consider that the First Boston Corporation and Dillon Read and Company or either of them occupy a historical position of leadership in respect of issues by companies of the North American System? A. I think that 9116
both Dillon Read and Company and the First Boston Corporation have done over the years what I consider some good jobs for various companies in the North American Company system; and I would naturally hope that when a new piece of business came along, the management of the company involved would at least be in a receptive frame of mind.

Q. You would expect in fact first consideration, would you not, for your two firms? A. But, of course, with this new rule—what is it—Rule 50—going into effect, I think that it is sort of an academic question.

Q. The rule has not yet gone into effect. A. It is going 9117
into effect on May 7, isn't it?

Q. Yes, if I recall correctly.

But, leaving the rule as to the future out of consideration, you would normally expect in the case of a new issue by a North American Company that your firm or that of

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Dillon Read would be given first consideration?

Mr. Hamilton: I ask that the question be clarified as to whether the question contains the assumption that the rule does not exist in the future.

Mr. Binford: It contains an assumption that at the time of operation the rule has not yet been in effect.

Mr. Hamilton: Is the question limited, then, to any possible transaction between the present and May 7, 1941?

Mr. Binford: Yes.

A. I would be very much disappointed in between now and May 7 if, for instance, the Kansas Power and Light Company wanted to do a piece of financing and they would not
9119 come to us about it.

By Mr. Binford:

Q. Do you think Dillon Read would feel similarly in that respect? A. I don't know. Dillon Read would have to speak for themselves.

Q. But you do know what the historical practice is? A. Oh, I do know. As I say, we would be very much disappointed, although they (the Company) have a perfect right, and always have had, to deal with anyone that they please
9120 about picking the people that they want to do business with. We feel, however, and we would like to believe, that the

reason they select the First Boston Corporation is that they have been satisfied with the jobs that we have done for them in the past. We like further to believe that they have known the members of our organization over a long period of years and have confidence in what we tell them.

Mr. Binford: I have no further questions. I would like to make the same reservations as heretofore made in respect of other witnesses.

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Mr. Hamilton: The usual objection, Mr. Examiner, if you please. That is all.

The Examiner: All right. The record will show that.

(Witness excused.)

Whereupon, F. W. DOOLITTLE, being called as a witness on behalf of the Respondent, and after being first duly sworn, was examined and testified as follows:

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Direct Examination by Mr. Browning:

Q. Will you give your full name and address to the reporter? A. F. W. Doolittle. Garden City, New York.

Q. Will you please outline briefly your education and business experience, Mr. Doolittle? A. I graduated from Princeton University in 1905 with the degree of B. A., and

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from the University of Colorado with the degree of Bachelor of Science in civil engineering in 1907; and in 1911 received an advanced degree in engineering.

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My early professional experience, some of which was in vacations, comprised field and office work in connection with the maintenance department of the Union Pacific Railroad; steel and concrete structural design for the Chicago, Milwaukee & St. Paul Railroad; operation and construction work mostly in the field with the Boston Consolidated Mining Company of Utah; and operation and construction work with the Consolidated Coal and Coke Company in Colorado.

In the fall of 1908 I went to the University of Illinois as instructor in mechanics and hydraulics. After a year there

9124 I spent a year as instructor in structural engineering at the University of Colorado. The three following years, 1910 to 1913, I was assistant professor of mechanics in the College of Engineering at the University of Wisconsin; and also covering the same period and extending into the fall of 1913 I was engaged in research and case work for the Railroad Commission of Wisconsin, dealing primarily with transportation costs in connection with freight and passenger rates.

In the fall of 1913 I became the first secretary with the
9125 title of Acting Secretary of the Public Utilities Commission of Illinois.

Sometime about the middle of the following year, after a

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brief job with the Milwaukee Electric Railway and Light Company, which is now the Wisconsin Electric Power Company, and which incidentally formed my first contact with the North American System, I went to New York as director of the Bureau of Fare Research of the American Electric Railway Association.

My work with this bureau terminated at the end of the
9126 year 1915, and from the beginning of 1916 until sometime in 1923 I was consulting engineer on retainer throughout practically the whole of the period, as I recall it, from the North American Company or its subsidiaries, and devoted perhaps half of my time during that period of upwards of seven years to the work of the North American group of properties.

The balance of the time was devoted to work for other companies, practically all of which were public utilities operating railway, gas, electric, heating, and such businesses, although I did some work during that period also for the Chicago, Milwaukee & St. Paul Railroad.

9127 From the beginning of 1923 and continuing until, I believe, December 1, 1936, at which time I retired, I was vice president of the North American Company. From 1926 to 1936 I was a member of the executive committee; and from 1935 to date a director of the North American Company. And during the period from 1923 to 1936 I was an officer and director of various of the subsidiaries and affiliated companies in the North American group.

9128 I retired as an officer of all companies in the North American group in 1936, but have since that date been on retainer with the North American Company as a consultant in general problems that arise; and I have also continued as a director of their affiliated companies in Washington, that is, the Washington Railway & Electric Company, the Potomac Electric Power Company, and the Capital Transit Company. I am also a director of the Illinois Terminal Railroad Company.

9129 My service as director has not been continuous with the Washington affiliates of the North American Company, as I have been away from this part of the country from time to time; and, at least in the case of the Capital Transit Company, the vacancy created by my absence was filled in my absence, and then I was re-elected upon my return.

During my association with the North American group of properties, which began in 1914, but which has been practically continuous from 1923 to date, my activities have been primarily concerned with engineering and operating matters as distinguished from corporate financing matters; although the North American Company officers throughout

9130 *F. W. Doolittle—By Respondents—Direct*

the whole of my contact with that company operated to some extent as a committee, that is to say, the lines of authority and interest have not been precise in all cases.

As an example, certain of the officers who are not engineers have passed on operating and engineering problems;

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and I in turn have participated in the negotiation of bank loans and of such matters, although my attention was by virtue of my prior experience primarily devoted to problems
9131 of engineering and operation.

Q. Mr. Doolittle, are you familiar with the operations of the Station Advisory Operating Committee and the Intercompany Electrical Committee? A. Yes. I have followed the work of those committees practically from their inception.

Q. When were the committees first formed? A. The Station Advisory Operating Committee held its first meeting in February, 1921, and the Intercompany Electrical Committee in March of the same year. Both meetings were held in Cleveland, and the organization meetings were attended by Mr. Ruffner, at that time a vice president of the North
9132 American Company.

Q. What was the origin of the two committees? A. The setting up of these two committees grew out of a desire on the part of the officers of the North American Company to obtain the best possible technical results through the interchange of experiences of the operating men on the several properties.

As the first step Mr. Ruffner, who prior to that time had operated the St. Louis County Gas Company and subsequently the Union Electric Light & Power Company, was

brought to New York by Mr. Mortimer, the president of the

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North American Company, for the purpose of promoting the exchange of experiences and the best possible engineering practice amongst the operating properties.

I cannot say whether Mr. Mortimer or Mr. Ruffner or Mr. Gruhl, who was at that time also an officer of the North American Company, first conceived the idea of the Intercompany Electrical Committee as a means to the end. I do know that out of this group of men this result came. 9134

Q. What has been the membership in these committees? A. Originally the Milwaukee Company and the St. Louis Company, subsidiaries of the North American Company, in which Central States had a substantial investment, that is, the Central States Electric Corporation, together with the Cleveland and Youngstown, also owned by the Central States Electric Corporation, together with Detroit, in which the North American Company had a large interest.

Q. Were there any substantial changes in the membership? A. Yes. In 1923 the representative of the Youngstown property went off the committees. 9135

Q. Did that action take place after any change of control of the Youngstown properties? A. Yes. That took place at the time the Central States Electric Corporation sold its interest in Youngstown.

In 1929 the Potomac Electric Power Company, after the

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North American's acquisition and after certain developments, had representatives on the two committees.

Representatives of the Great Western Power Company and the San Joaquin Light and Power Corporation became members of the Intercompany Electrical Committee.

Q. That is, only as to that committee? A. Yes. Only the Intercompany Electrical Committee.

At the time of the acquisition by the North American Company of an interest in the Western Power Corporation, which was the parent company of the Great Western and San Joaquin at that time.

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These representatives went off these committees about 1931 or 1932.

Q. Was that following any sale by the North American of its interest in the Western Power Corporation? A. Yes, I don't recall the date, but I think it was about 1930 that the North American Company disposed of its interest in Western Power to P. G. & E.

Representation of these western companies, the Great Western and San Joaquin, was confined to the Intercompany Electrical Committee, because those two California companies had no comparable steam generating properties with the other subsidiaries of the North American Company, their generation in California being primarily very high-head hydro.

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I think that covers the changes in company membership.

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There have, of course, been numerous changes in the individuals who represented these companies as men died or for other reasons it was necessary to appoint successors.

Q. Can you tell us generally how the organization of the committees has functioned? A. The committees choose

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their own chairman. This office of the chairman has rotated from time to time among the committee members.

The committees each have a secretary, it being the same man in each case, however, who handles certain statistical work for the committee, its minutes, its notices of meetings, and functions generally in the capacity of secretary.

Q. Where are the meetings held? A. Almost always on one or the other of the operating properties, rotating, but varying the place of meeting occasionally when some important piece of equipment is to be brought into service, or 9140
when for some other reason the members of the committee may happen to be brought together elsewhere. But generally speaking the meetings are held on the properties; and they frequently are arranged so that an inspection trip of new or special apparatus of some sort can be combined with the other subjects handled at the meeting.

Q. Are these committee meetings valued by the respective company officials? A. I think they are very greatly. They are particularly valued because under the way these com-

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mittees are set up and functioning we have men of large experience and ability of substantially coordinate corporate position, free to discuss their problems with each other, and they understand that it is the desire of the heads of their companies that they shall speak frankly on their failures as well as their successes.

Q. Are the meetings informal? A. Yes.

Q. Is this informal and free interchange a matter which is easily secured? A. No. It is most difficult to secure.

9142 *F. W. Doolittle—By Respondents—Direct*

I might illustrate with certain problems that I faced as Director of the Bureau of Fare Research of the American Electric Railway Association.

This was a department of a membership organization set up for the purpose of studying in general two things: First, the relative advantages of regulation by contract, that is, by ordinance, and regulation as a continuous process under a state regulatory commission. The other matter of primary consideration was a study of the basic costs of transporta-
9143 tion in an effort to determine what were the points of weakness and what were the points of strength from an economic standpoint in city transportation as rendered by street railway as compared with other forms of transportation which were then first coming into use, such, for example, as the

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so-called jitney, which was the prototype, shall we say, of the modern bus.

It became evident after several months that the value to the owners and operators of the various railway companies which they hoped to get from the studies, as to full
9144 and complete information on costs and on problems of regulation, was not to be forthcoming. The men operating these companies were busy with their day-to-day problems. There was no financial interest back of them which would suggest to them that perhaps they should cooperate fully to their own advantage.

The net result was that after about six months I went to Milwaukee, which I think has one of the longest records of regulation by a state commission, and to Cleveland, which has, I am sure, the most interesting history of attempts to

regulate by contract bargaining; and assembled a small staff in each place, and practically lived on those properties until I could get together the information which was necessary.

Both companies were extremely anxious to get the results and were interested in the results of my studies. Once having reduced them to manuscript form, they then went after me and corrected me in several instances in misconceptions which I had. But, if left to them, I should never have been able to get the information.

I had similar experiences as chairman of committees on 9146
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valuation and depreciation of the American Electric Railway Association and as a member of the Accounting Committee and of the Railroad Electrification Committee of the National Electric Light Association.

Those are illustrations of the difficulty of getting a full and frank and free discussion of the successes and failures on a totally cooperative basis.

Q. I take it that you feel that there is a difference between a general industrial committee or committee between non-affiliated companies, and the North American intercompany committees? A. Yes. A very distinct difference. 9147

Q. Does the common financial interest have anything to do with the success of the North American intercompany committees? A. I think that is a controlling factor.

Q. In your opinion will those committees continue if the present ties are broken? A. No. I am sure they would not.

Q. Do you know of any group similar to the North American intercompany committees which exists among non-affiliated companies? A. No. I don't know of any, and

9148 I think over the years I would have known of them if they were in existence. But a categorical answer is no. I do not know of any such.

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Q. Do you think that the possible loss of personnel would be a factor militating against such a committee existing among non-affiliated companies? I should add that by loss of personnel I mean the possibility that one of the non-affiliated companies might attempt to acquire personnel of 9149 another. A. I think that is a rather real danger, although I didn't have any idea that that was what you were getting at in the question when it was originally asked. An operator is always reluctant to let his best-grade men parade their excellence before other possible employers. Unfortunately there is from time to time what might be termed pirating of personnel, and I should think that might be a very real reason why an operator might be reluctant to let his men whom he considers especially valuable display their proficiency before other employers.

Q. Do you consider that the North American intercom- 9150 pany committees constitute any stimulus to the participating engineers? A. Oh, I think so. Membership on those committees is not only of an educational value to the members through the contact that they have with other members of the several committees; but, since there is to be a full and frank discussion of the results, and since the results are constantly reduced to statistical form and circulated to the other companies, it is quite natural that the members of the

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committee are going to be stimulated to do their very best

at all times and not be caught, if possible to avoid it, in any unfavorable comparison.

Q. I believe you said a moment ago that informality was difficult to achieve. Have you at times tried to encourage the atmosphere of informality? A. Yes. Definitely. And that has been achieved in my judgment to a considerable extent by first keeping the personnel on each committee made up of men of about the same position in their respective companies.

I might say in addition that, although the officers of the 9152
North American Company from time to time, as well as officers of the subsidiary companies from time to time, have met with these committees, it has never been as a presiding officer, and never with the idea of controlling the discussion; but rather to indicate in a rather casual way the fact that we appreciate the excellent work that has been done, and we hope that they enjoy it, and we want to have them continue to do it as a permanent thing.

Q. Mr. Doolittle, do you have with you a set of minutes of the two committees? A. Yes.

Q. Will you please produce them? 9153

(The witness produced two suitcases full of documents.)

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Q. These copies that you have with you constitute a complete set of the minutes of the two committees? A. Yes.

Q. And these are copies of those in the records of the North American Company? A. That is correct.

Q. Mr. Doolittle, I hand you the minutes of the 110th meeting of the Station Advisory Operating Committee held

9154 *F. W. Doolittle—By Respondents—Direct*

on June 18 to 19, 1934, at Milwaukee, Wisconsin. Are you familiar with these minutes? A. Yes.

Q. Are these minutes typical and was this meeting typical of the other meetings held over the years? A. Yes. I think it is. The subject matters covered seem to be a fair sample of the various matters considered at the meetings over the whole period of existence of the committee.

Q. We understand that different matters are taken up at different meetings, but my question was directed to whether
9155 the general scope of the minutes, the general nature of the matters covered, was fairly typical. A. I think so.

Mr. Browning: I offer these minutes in evidence as Respondent's Exhibit 131.

Mr. Binford: I object to the reception in evidence of the proffered exhibit in the absence of a statement

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of counsel for the Respondents as to what issue in these proceedings this exhibit is directed to.

The exhibit on its face purports to be a record of certain proceedings of the Station Advisory Operating
9156 Committee, at which representatives of the Cleveland Electric Illuminating Company, the Milwaukee Electric Railway and Light Company, the Union Light and Power Company, the Potomac Electric Power Company, and the Detroit Edison Company were present. The evidence heretofore adduced on the part of the respondents in this proceeding has affirmatively shown that no two of these five organizations represented at this meeting and upon this committee can be considered as constituting together or in connection

with any one or more of the companies so represented a single integrated system.

So that this proceeding has reached the point at which it seems irrelevant and immatgrial to bring in any further evidence as to cooperation between these independent systems as bearing upon the question of what is a single integrated system or as bearing upon the question of what, if any, systems might be retained as an additional system to any integrated single system which might be held as its primary 9158
system by the North American Company.

If Mr. Browning and Mr. Hamilton care to state what evidence or effect of value is to be given to this proffered exhibit in connection with any issue in this

—7,181—

proceedings, possibly my objection might be withdrawn. But in the absence of any statement of that character the exhibit on its face is irrelevant and immaterial.

Mr. Browning: We are offering the exhibit for its bearing on all issues in the case; but we should con- 9159
sider it relevant, Mr. Examiner, among other things, for its bearing under subdivision A of Section 11-B 1. It is our position that the combination of these companies in these committees has resulted in substantial economies to the respective companies; and we consider this evidence relevant as bearing on that subject.

Mr. Binford: Mr. Examiner, the evidence as heretofore given in this case as to the localities and operations of these companies geographically is such that

9160 it would seem that the retention of any one of the admitted subsidiaries as an additional system to the Union Electric Company of Missouri as a principal system——

Mr. Browning: Isn't that something that we are going to argue later?

The Examiner: Isn't that something that the Commission has to decide and that you are going to argue as to the state of the record?

9161 Mr. Binford: I think not. I think that is a question of law as to the interpretation of B of Section 11(b)(1) as to whether or not a system not located in

—7,182—

a State adjoining the State of operation of the original system or States contiguous thereto can be retained in any event regardless of the degree of cooperation which may have heretofore been achieved between several systems of that character so distant from each other. That is stating it roughly, but I believe that that was the point that I wish to make.

9162 Mr. Browning: If the Examiner please, the construction of paragraph B is a matter that we understand has been argued at some length before the Commission and is to be passed upon by the Commission and presumably ultimately by the courts. As we all know, various constructions of that subdivision have been made. It seems to me that that is a question of law which should be reserved.

The Examiner: I think these minutes have relevancy, particularly in view of what has been ad-

duced as evidence in the very early stages of this proceeding. I recall, Mr. Binford, that you cross-examined at some length about the make-up of these Station Advisory Operating Committees. The record in evidence shows, I think, that this exhibit has relevancy; and I will receive it under the number mentioned.

Mr. Binford: I respectfully except to the ruling.

(The document referred to, being the minutes of the meeting of the Station Advisory Operating Committee held June 18, 1934, was received in evidence and marked "Respondents' Exhibit 131.") 9164

—7,183—

By Mr. Browning:

Q. Mr. Doolittle, I now hand you a copy of the minutes of the 37th meeting of the Intercompany Electrical Committee held on October 27th to 29th, 1931, at St. Louis, Missouri. Are you familiar with these minutes? A. Yes.

Q. Are they fairly typical of the minutes of the Intercompany Electrical Committee? A. In my judgment they 9165 are.

Mr. Browning: I offer these minutes in evidence as Respondents' Exhibit No. 132.

Mr. Binford: I would like to ask a question or two concerning these.

The Examiner: All right.

By Mr. Binford:

Q. Mr. Doolittle, the minutes which you have just identified as Respondents' Exhibit for identification No. 132 pur-

port to reflect the proceedings of the Intercompany Electrical Committee at a meeting held on October 27th to 29th, 1931, at St. Louis, Missouri. Do you know when these minutes were written? A. I can't answer precisely, but in the normal course of events those minutes are received in the North American office, I should say, not more than two weeks after the date of the meeting.

—7,184—

Q. Was that true in 1931? A. Yes, to the best of my
9167 recollection. Illness on the part of the secretary or some other untoward circumstance might delay them, but the minutes are received currently.

Q. And that has been true ever since the formation of these two committees of which you have been speaking? A. Yes.

Q. To your knowledge was this paper, Respondents' Exhibit for identification No. 132, prepared by the secretary of the meeting which it purports to record? A. The minutes were in the normal course received month by month or promptly after the meetings from the secretary's office in
9168 Cleveland. To the best of my knowledge and belief the secretary compiled them from notes taken at the meeting and had them mimeographed in his office and distributed.

By Mr. Browning:

Q. Is it the standard practice of the secretary to mail a copy of each meeting to each of the members of the North American Company or the members comprising the committee? A. Yes. That is the customary practice, the standard practice.

Q. That has gone over a 20-year period? A. At least since 1923, eighteen years.

By Mr. Binford:

Q. The mimeographed copy offered in evidence is a copy

—7,185—

recently made from the original record as prepared by the secretary? A. No. I think it is an original, one of those originally made by him at the time, an extra copy from his files. 9170

Q. Made in mimeographed form at that time? A. At that time. Yes, sir.

By the Examiner:

Q. Is that true of the previous exhibit? A. Yes, sir. That statement would cover also Respondents' Exhibit 131.

Mr. Binford: I object to the reception in evidence of the proffered exhibit on the same grounds as objection was made to Respondents' Exhibit 131.

The Examiner: I will receive it in evidence as Respondents' Exhibit 132, and you may take an exception. 9171

(The document referred to, being minutes of a meeting of the Intercompany Electrical Committee held October 27-29, 1931, was received in evidence and marked "Respondents' Exhibit 132.")

Mr. Browning: I would like to state for the record, Mr. Examiner, that we have with us here a complete set of the minutes of the two committees as compiled

9172 *F. W. Doolittle—By Respondents—Direct*

over the years; and that, while I am entirely willing to offer the entire group of minutes, it seems to me that it would unduly burden the record.

—7,186—

For that reason and that reason alone I have offered the minutes of the meetings which we consider to be fairly typical.

I should also like the record to show that we are delivering to the staff this complete set of minutes;
9173 and if the staff wishes to offer the minutes of any individual meetings, we shall be glad to have that done.

The Examiner: Very well. The record will so show.

By Mr. Browning:

Q. These minutes which you have, Mr. Doolittle, show that the meetings of these committees have continued from 1921 up to the present time? A. That is correct.

By the Examiner:

9174

Q. Are all these minutes recognized as the official minutes of these committees as kept by the North American Company as well as the secretary of the committees? A. Yes.

By Mr. Browning:

Q. Could you state, Mr. Doolittle, what are the dates of the last meetings in the case of each committee? A. The date of the Intercompany Electrical Committee was November 12 to 13 in Washington, D. C.

Q. Was that in 1940? A. 1940. And in the case of the Station Advisory Operating Committee it was February 19

—7,187—

and 20, 1941, in St. Louis, Missouri.

Q. Are you familiar, Mr. Doolittle, with the statistics interchanged by the constituent companies through the two committees? A. Yes.

Q. Have you brought with you a typical set of such statistics? A. Yes. 9176

Q. Will you produce them?

(The witness produced a number of documents.)

Mr. Browning: Mr. Examiner, again I should like to state for the record that if we attempted to offer in evidence all of the statistics exchanged through these committees, there would be literally thousands of documents. Accordingly, we will avoid burdening the record by submitting a typical set.

By Mr. Browning: 9177

Q. Mr. Doolittle, I hand you a sheet entitled "Comparative Station Operating Data, Period of July 1940 to June 1941, Inclusive." Is this one of the statistical reports exchanged among the constituent companies through the Station Advisory Operating Committee? A. It is. It is prepared monthly in the office of the Secretary of the Committee from data submitted to him by the members of the committee; and when so prepared, circulated to all of the

—7,188—

9178 *F. W. Doolittle—By Respondents—Direct*

members of the committee and to the North American Company.

Q. This, then, is a monthly report? A. That is true.

Q. Have these reports been so exchanged for many years? A. Yes.

Q. In substantially this form? A. In substantially this form since the beginning of the committee, except, of course, for the fact that some power plants which were represented in the 20's are not in operation now, and certain new ones do
9179 appear in these figures. But the substance of these tabulations is the same.

Q. And this is a fairly typical example of this particular form of report which has been circulated for many years? A. Yes.

Mr. Browning: I offer the report in evidence as Respondents' Exhibit 133.

Mr. Binford: I object to its reception in evidence on the same grounds as those interposed to Exhibits 131 and 132 of the Respondents.

9180 The Examiner: The exhibit is received in evidence under the number mentioned.

(The document referred to was received in evidence and marked "Respondents' Exhibit 133".)

—7,189—

Mr. Binford: Exception.

By Mr. Browning:

Q. These column headings on this table refer to power plants, Mr. Doolittle? A. That is correct.

9181

Q. And they are respectively Lakeside and Port Washington of the Wisconsin group? A. Yes.

Q. Cahokia of the Union group? A. Yes.

Q. Ashtabula and Avon of the Cleveland group? A. Yes.

Q. Conners Creek and Trenton Channel of the Detroit Edison Company? A. Correct.

Q. And Buzzards Point of the Potomac Electric Power Company? A. Yes.

9182

Q. I now hand you a sheet entitled "S. A. O. C. Comparative Operating Expense Data." Is this a typical report exchanged through the S. A. O. C.? A. Yes. Under identical conditions as described with respect to Exhibit 133. In this case the exhibit deals with operating expenses. In the case of Exhibit 133 the basic engineering data were dealt with, such as kilowatt hours and British Thermal Units.

—7,190—

9183

Q. And again is it true that this form of report has been used in substantially this form over the years? A. This form or its equivalent under slightly different arrangement has existed for many years.

Q. This is also a monthly report? A. That is true.

Q. And this is a fairly typical example? A. Yes.

Mr. Browning: I offer it in evidence as Respondents' Exhibit 134.

Mr. Binford: I object to the admission in evidence of the proffered exhibit on the same grounds as stated in connection with the reception of the last exhibit.

The Examiner: I receive it as Respondents' Exhibit 134.

9184 *F. W. Doolittle—By Respondents—Direct*

Mr. Binford: Exception.

(The document referred to was received in evidence and marked "Respondents' Exhibit 134.")

By Mr. Browning:

Q. Mr. Doolittle, I now hand you another statistical report entitled "Station Advisory Committee—Comparison of Unit Totals—Production Costs, Month of January, 1941." 9185 Is this another statistical report interchanged through the S. A. O. C.? A. Yes, under the same general conditions as stated with respect to Exhibit 133 and 134, except that in

—7,191—

this case, that is, in the case of Exhibit 135, there are figures derived by the secretary from the basic figures reported to him and tabulated in Exhibits 133 and 134.

Q. Is this also a monthly report? A. That is correct.

Q. And is this a fairly typical example? A. It is.

Mr. Browning: I offer it in evidence as Respondents' Exhibit 135.

9186 Mr. Binford: I would like to ask a question or two with regard to this exhibit.

The Examiner: All right.

By Mr. Binford:

Q. How long has this been a monthly report, Mr. Doolittle? A. Since substantially the beginning of the committees in 1921. I can't state positively just when it was begun in this form, but it is certainly of fifteen years standing.

Q. Then for at least fifteen years reports of this character in substantially the form shown by the proffered exhibit have been prepared and distributed monthly? A. Yes. That is correct.

Mr. Binford: I object to the proffered exhibit upon the same grounds as stated with reference to the last five preceding exhibits.

—7,192—

The Examiner: This last-mentioned exhibit is admitted under the number mentioned. 9188

Mr. Binford: I respectfully except.

(The document referred to was received in evidence and marked "Respondents' Exhibit 135.")

By Mr. Browning:

Q. Mr. Doolittle, I hand you another form of statistical report entitled "Station Advisory Operating Committee—Yearly Weighted Average Performance Data—Steam Generating System—Year 1940." Is this another statistical report interchanged through the Station Advisory Operating Committee? A. That is correct. This tabulation is made annually by the secretary of the Station Advisory Operating Committee from data furnished him currently during the calendar year; and upon its completion it is circulated to the members of the committee and to the North American Company. 9189

Q. Is this a report that has been circulated for many years? A. I am not sure how long this annual summary in this form has been circulated. I am familiar with it for a

9190 *F. W. Doolittle—By Respondents—Direct*

number of years in this or substantially similar form. It is my recollection that it is not so old in continuous submission as the basic efficiency tables prepared monthly and circulated monthly to the operating companies.

Q. At any rate, it has been circulated for a number of

—7,193—

years? A. Yes.

Q. Is this particular example a fairly typical one? A. Yes.

9191 Mr. Browning: I offer it in evidence as Respondents' Exhibit 136.

Mr. Binford: Same objection upon the same grounds as noted to the last exhibit.

The Examiner: I make the same ruling and receive it as Respondents' Exhibit 136.

Mr. Binford: I respectfully except.

(The document referred to was received in evidence and marked "Respondents' Exhibit 136.")

9192 *By Mr. Browning:*

Q. I hand you another table, Mr. Doolittle, entitled "Station Advisory Operating Committee—Analysis of Coal Samples Submitted by Cleveland—January 10, 1941." Will you explain for us what this table is? A. In determining the thermal efficiency of a power plant the accuracy of the measurement of the British Thermal Units in the coal as fired is, of course, of fundamental importance. The same sample submitted to a number of different chemists will be reported by them as having slightly different value in terms

of B. t. u.'s per pound due to the difficulties of precise measurement of temperature rise in the calorimeter where

—7,194—

the coal is tested.

Each month one of the five companies represented by column headings in this exhibit marked "137" sends a sample of coal to each of the other companies as well as to its own chemist. Each then independently tests the coals and sends the result back to the secretary of the Station Advisory Operating Committee, who thereupon compiles the data as 9194
reported in this Exhibit 137.

In this particular case it will be observed that the sample which the Cleveland chemist tested at 13,920 B. t. u.'s per pound dry was tested by Detroit at 13,930 B. t. u.'s per pound dry, by the Milwaukee chemist at 13,940, the St. Louis chemist at 13,900, and Washington at 13,920.

Incidentally, the maximum variation there is 20 B. t. u.'s out of a total of 14,000, which shows very close agreement. I cannot say positively, but it is my recollection that the Bureau of Mines accepts coal tests as accurate which run within 50, which would be more than twice the variation 9195
shown here.

I might add also that in the beginning, when these sheets were first made up, and before the different chemists had developed a greater uniformity of technique, these variations ran substantially higher. While I haven't examined these very many times in the last five years, I am also under the impression that the variations shown here are perhaps a little bit better than the average practice gotten in this group

—7,195—

9196 *F. W. Doolittle—By Respondents—Direct*

of companies. I think maybe 30 B.t.u.'s would be a fair average variation.

The February sampling was done by another company and the December one by another company, and similar reports made up for comparison. So about twice a year it gets around to each company, and each chemist is put on the spot.

Q. Do I understand correctly, then, that this report is a typical example of the form of reports interchanged? A. Yes.

9197 Mr. Browning: I offer it in evidence as Respondents' Exhibit 137.

Mr. Binford: I would like to ask a question or two about it.

The Examiner: All right.

By Mr. Binford:

Q. What are the meanings of the initials "J. M. G: E. S." in the lower left-hand corner of this exhibit? A. I suspect that the "J. M. G." are the initials of Mr. Gerber, who is the secretary of the committee. The "E. S. is probably his stenographer. The "13" I don't know. It probably represents the
9198 number of copies.

Mr. Binford: I object to the proffered exhibit on the same grounds as those stated with respect to the reception of the last exhibits.

—7,196—

The Examiner: I receive i as Respondents' Exhibit 137.

Mr. Binford: Exception.

(The exhibit referred to was received in evidence and marked "Respondents' Exhibit No. 137.")

By Mr. Browning:

Q. Mr. Doolittle, I hand you a tabulation of statistical data entitled: "Intercompany Electrical Committee—Comparative Data on Circuit Interruptions and Equipment Failures." Is this a report which is circulated among the constituent companies through the Intercompany Electrical Committee? A. Yes.

Q. Do you know how long this report has been in circulation or a report in some such form? A. I cannot state with any degree of positiveness just how long this has been going. 9200
The data in this particular compilation goes back to February, 1937, the figures being for 12 months, running for the first 12-month period, ending in January, 1938. So the initial information goes back to February, 1937. That makes it about four years. But it is my impression that this has been going on since about 1930 in this form, although I cannot state that with any degree of positiveness.

Q. It is a form of report currently circulated? A. Oh, yes.

Q. And is this a fair example of such reports? A. Yes.
—7,197— 9201

Q. Is this an annual report? A. No. This is a monthly report.

Mr. Browning: I offer it in evidence as Respondents' Exhibit 138.

Mr. Binford: Same objection as made to the last previous exhibit on the same grounds.

The Examiner: This exhibit, consisting of 22 blueprint pages, is admitted under the number mentioned.

Mr. Binford: I respectfully except.

9202 *F. W. Doolittle—By Respondents—Direct*

(The exhibit referred to was received in evidence and marked "Respondents' Exhibit 138.")

By Mr. Browning:

Q. Mr. Doolittle, I hand you another set of statistical tables consisting of five sheets entitled "Analysis of Electrical Losses and Efficiencies, Calendar Year, 1939." Is this another set of statistics currently exchanged through the Intercompany Electrical Committee? A. Yes.

9203 Q. Is this an annual report? A. Yes.

Q. Could you tell us whether this has been exchanged over the years? A. The substance of this report has been exchanged for practically since the inception of the committee. I think the form has been modified somewhat.

—7,198—

You will note that it deals step by step with the electrical efficiencies beginning with the net system output, carrying down the losses through transmission, conversion, transformation, distribution, to the total system, followed by a summary which carries the basic figures back to 1928.

9204 This would suggest to me that this particular type of comparison has been running now about fourteen years, because the initial date here is 1928. But in slightly different form but not wholly comparable it undoubtedly was compiled from the very inception of the committee, because it goes to the final answer of your distribution and transmission system efficiency.

Q. Is this report typical of the practice that has been followed for a number of years, at any rate since 1928? A. Yes.

Mr. Browning: I offer the report in evidence as Respondents' Exhibit 139.

Mr. Binford: Same objection as that interposed to the last exhibit, on the same grounds.

The Examiner: This exhibit, consisting of four pages and the title sheet, five in all, is admitted under the number mentioned.

—7,199—

Mr. Binford: Exception.

(The document referred to was received in evidence and marked "Respondents' Exhibit 139.") 9206

By Mr. Browning:

Q. Mr. Doolittle, are these statistics so interchanged among the companies, of value? A. Yes. They are of very great value.

In the first place, they point directly to the strength and weaknesses of the practices of the various engineers and put them on notice before their fellow engineers. It is a distinct stimulus to an engineer to have comparable unbiased and fully revealing figures available to the men under him 9207 on his own staff; and I am satisfied that the availability of these figures over the years has contributed substantially to the excellent performance that the production departments of the companies, as well as the distribution departments, have obtained.

The Examiner: At this point we will recess until tomorrow at 10 o'clock.

(Thereupon, at 5 o'clock p. m., an adjournment was taken until the next day, Thursday, April 10, 1941, at 10 o'clock a. m.)

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9208

BEFORE THE

Securities and Exchange Commission

File No. 59-10

IN THE MATTER

of

THE NORTH AMERICAN COMPANY, *et al.*

9209

Hearing Room 1101,
Securities and Exchange Commission Building,
18th and Pennsylvania Avenue, N. W.,
Washington, D. C.,
Thursday, April 10, 1941.

Met, pursuant to adjournment, at 10:00 o'clock, a. m.

9210

Before: WILLIAM W. SWIFT, *Trial Examiner.*

Appearances:

S. PEARCE BROWNING, JR., and CHARLES S. HAMILTON, JR., of Sullivan & Cromwell, 48 Wall Street, New York, New York, appearing for The North American Company, *et al.*, Respondents.

RALPH C. BINFORD, appearing for the Securities and Exchange Commission.

PROCEEDINGS

The Examiner: The hearing will come to order.

Whereupon, F. W. DOOLITTLE, a witness produced on behalf of the Respondents, having been previously sworn, resumed the stand and testified as follows:

Direct Examination by Mr. Browning (Continued):

Q. You testified yesterday, Mr. Doolittle, with respect to 9212
certain statistical information exchanged about the operating companies through the medium of the Station Advisory Operating Committee and Intercompany Electrical Committee, and identified various examples of statistical sheets so interchanged.

Could this statistical information be secured by the operating companies in any other way? A. No. It is information compiled from original records on a somewhat different basis than any data of that sort formally repo ted to commissions, but portions of it, of course, are available in reports to commissions, but on the whole, no such consistent 9213
body of statistics and cost analyses are available.

Then, of course, there is always the problem of interpretation of the Uniform Classification of Accounts in different jurisdictions and by different bodies, as a result of which varying technical practices in accounting and statistical

work grew up in the different jurisdictions. These, of course, do not affect the validity of the balance sheets and income accounts, but would make extremely difficult the functional

9214 *F. W. Doolittle—By Respondents—Direct*

cost studies which the members of the Committee made in behalf of their companies, as was indicated yesterday in regard to the Station Advisory Operating Committee and the Intercompany Electrical Committee.

Q. Are you familiar with the combined operation of the various businesses, by various subsidiaries in The North American Company System? A. Yes.

Q. For example, are you familiar with the operations of the electric, gas and transportation business in the Wisconsin
9215 Group? A. Yes.

Q. Have you any experience with State regulation of public utilities? A. Yes. I have been on the staff of two Commissions, the Wisconsin Commission and the Illinois Commission, and I have also appeared before various other State Commissions, representing utility companies.

Q. Does the combined operation of several businesses such as the example I mentioned in any way create any problem for State regulation? A. Yes. It creates problems both for regulation and operation, but problems no different

—7,203—

9216 in kind, and, in my judgment, even less in a degree than the problem which arises from joint serving of domestic, industrial and commercial customers in the electric business from the same generating plant.

So far as I know, no one has yet evolved a theory of peak load responsibility which has achieved anything like general acceptance. That problem is inherent in the use by different classes of customers of the same facilities, such as a generating plant. The problems arising from the joint operation of railway, gas, electric, for example, or the freight and pas-

senger business of a steam railroad are problems of the same kind,—that is, the assignment to several services of their fair portion of the properties jointly used and similarly, the assignment to the costs of operation incurred in the interest of more than one service; for example, the maintenance of the railroad track over which both freight and passenger trains run.

The use of a general office building, in which the affairs of more than one type of service are administered, be they different classes of electric service or gas and electricity. 9218

The problems are inherent in the diversity of the contribution of the cost of the several customers to the total cost of the company, and not to the fact that one customer may receive electric service and another, gas service.

—7,204—

Q. In other words, if I understand you correctly, while the combination of businesses may create problems, they are essentially the type of problems which it is a commission's business to regulate? A. That is correct.

Q. And that there is no particular difficulty inherent in 9219 this type of problem? A. No, and no more difficulty in connection with this joint business than would be in connection with the problem of rendering a single type of service such as the electric or gas.

Q. In other words, to avoid any problem, you should have one generating plant, one transmission line and one customer? A. That would relieve us of many of the problems.

Q. And then you would not need any commissions? A. No, and no managers either.

9220 *F. W. Doolittle—By Respondents—Direct*

Q. Are your view in this connection,—they would apply to other examples of combined businesses in The North American system such as, for example, the St. Louis County Gas Company in the Union Group? A. Yes. A good illustration is a steam heating and electric service in other places such as Cleveland, where there is a joint use. The Missouri Company happens to be separately incorporated.

Q. So that a combination of businesses doesn't impair the State regulation? A. I don't think it does.

9221 —7,205—

Q. Mr. Doolittle, can you explain for us the function of the holding company in operating matters under the North American scheme of operation? A. Well, the North American scheme, ever since I have been associated in any way with the holding company, or its subsidiaries, has had for its major objective the development of as skillful an operating organization as it was possible to get.

Q. Operating organization where? A. On the operating properties, and to maintain no operating organization by the holding company, itself. That is, the North American or-
9222 ganization never tempted to supplant the operating organization of the holding company.

Q. Of the what? A. Of the local management, I should say, but to supplement the skills of the operating company's management by what might be termed a consultative process. The utility industry has certainly not been static, particularly the electric business has shown very great changes, very great developments over the last twenty-five years and so far as I can see, there is no present tendency to end the development. That means that in such a dynamic industry, as com-

pared with one more static, there is a constant change and unless such change is recognized, an operating company tends to become stagnant.

—7,206—

There is no opportunity for local comparison. A dry goods store or a grocery store is stimulated by its contacts with other men and other industries of a like nature in a community, but the operator of a power plant of a utility company, for example, has no local means of keeping himself up to date and stimulated such as these other industries 9224 of which there are likely to be several in any community.

A considerable part of my duties for a number of years was to discuss both in New York and on the operating company's property, with the operating heads and engineers of those departments, new aspects of old problems and new problems which arose, and to help those men reach sound conclusions. After all they were their conclusions when reached; they were not mine.

We are dealing here, partly, with technical matters but we are also dealing with people, and it is a rather delicate 9225 situation, nonetheless, one of fundamental importance and of greatest value to avoid operating a man's property for him and at the same time, to give him the maximum stimulus and help in reaching a sound conclusion; because, unless when these conclusions are reached, they are his and he really believes them, you are not going to get maximum performance in the carrying out of the plans developed.

I might perhaps elaborate on this but I think that is the nub of the matter that The North American Company believes in the highest possible technical skill on the part of

—7,207—

its management, it believes in furnishing those men with such consultation, both on their properties and in the New York office as will keep those men thinking clearly, keep them abreast of the times, and enable those operating men to reach, for themselves, the conclusions which are the wisest.

I think it is fair to say that in many instances, the opportunity of the head of an operating utility to discuss his problems with a sympathetic and, I hope, a reasonably well informed person who has the financial interests of the oper-
9227 ating company at heart, is of greatest value.

Q. It was this theory of the function of the holding company that resulted in the organization of The North American Company, itself? A. That is true. The North American organization consisted of men of experience and judgment, with such a staff of a statistical and secretarial nature that the North American officers could keep themselves informed as to developments, tendencies in costs and performance on the various properties, but without such that there would be a temptation to actually design a boiler or a power house which, after all, eventually had to be operated by the
9228 man on the property and not by the North American staff.

Q. If I understand you correctly, the theory was, in effect, that the heads of the respective operating companies

managed their properties and the function of the North American executives was to consult and advise with them? A. That is correct.

Q. In carrying out this theory, did you talk to the heads of the properties? A. Very frequently.

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Q. For many hours? A. Yes, for days at a time, both in New York, Cleveland, St. Louis, Milwaukee, Washington, and so on.

Q. Could you give us any example of the way the process works? A. Well, one matter that arose some years ago had to do with the expansion of the Cleveland territory beyond the Cleveland corporate limits. The advent of roads, the building up of suburban properties adjacent to Cleveland, and other forces, tended to make that territory along the south shore of Lake Erie, from the Pennsylvania line practically all the way across the State, much more homogeneous than it had been. The President of the Cleveland Company, at that time, had been many years in Cleveland and he had rather fixed ideas that the Cleveland Electric Illuminating Company should serve approximately the City of Cleveland and the adjacent suburbs.

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I had some conversations with the President of that Company, at that time.

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Q. That was Mr. Lindsay? A. Mr. Robert Lindsay. I participated in the discussions in which Mr. Gruhl, an officer of The North American Company, also participated, and I have no doubt that there were discussions on this matter in which I did not participate, but in any event, it was our judgment, in New York, that the territory which should have the Cleveland service was no longer the immediate vicinity, —the City of Cleveland and its immediate environs, but a substantially greater area, which, by that time, was practically as much a part of the City of Cleveland as one of the nearer suburbs had been ten or fifteen years before.

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Eventually, Mr. Lindsay reached the same conclusion and at that time certain properties lying between Cleveland and Ashtabula were integrated with the Cleveland system, power sources established in the newly acquired area, and the whole area is now, from a service and rate standpoint, a single area.

That is typical of the kind of thing under discussion, I, myself, had a number of discussions, running over a considerable period of time, with the President of the Potomac Electric Power Company with respect to the form of rates

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that that Company should adopt.

It had been a Mr. Ham's theory that a flat rate of so many cents per kilowatt hour, without regard to quantity, had in the past met the needs of Washington and would likely continue to be a satisfactory scheme.

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I felt rather strongly on the matter that the incentive type of rate was important; Mr. Gruhl did, also, and eventually Mr. Ham decided to retain, I believe, Stone & Webster, to make a report on the rate situation. Following that, Mr. Ham concluded that a promotional form of rate would, in

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the long run, serve the community, and the Company, better than the flat rate system.

A slightly different sort of a situation arose prior to my becoming an officer of The North American Company. When I was retained by one of the subsidiaries and I had a problem, with respect to certain valuation and rate cases in which I, at the suggestion of the head of the company for which I was working, came to New York to discuss the matter with Mr. Gruhl who, prior to that time, had had a great deal of experience in Wisconsin and Missouri and had for a number

of years, been a member of the staff of the Wisconsin Commission. I did that and received the suggestions and advice but ultimately Mr. Way and I had to make up our minds as to what we were to do.

My reason for mentioning that was that at other times I had been engaged by the Chicago Elevated Railway Company to go before the Illinois Commission in substantially the same sort of case, that is, valuation and rate proceeding and there was no holding company and no financial interest back of that that I could go to. We worked out our problems 9236
as best we could and I think we did a good job but I would

have greatly appreciated the help Mr. Gruhl might have given us in the Chicago Elevated case.

Q. Are matters of the type you mentioned such as the development of the Cleveland Company's territory and the change in the Washington rate schedule important matters to those operating companies, and a very important question, have the companies and the public benefited from the adoption of the views which The North American Company officers advocated? A. Certainly the service and rates in Cleve- 9237
land Electric Illuminating territory represented a distinct advantage to their customers and I think the expansion of territory has made the financial status of the Cleveland Company, through greater diversification, better than it would have been had it confined itself to the narrow limits of the City of Cleveland.

As to the rate situation, in Washington, I am sure that the promotional form of rate which has increased the use per customer so markedly, has resulted in lower costs and constantly lower rates, forming an element of value to the

9238 *F. W. Doolittle—By Respondents—Cross*

community that is well recognized, certainly in the industry, and among those connected with the company, and I feel that it is safe to say that it is generally appreciated in the community.

Q. This consultative process which you discussed is

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something which goes on more or less constantly? A. Yes, with different companies and different problems on different days, but it is constantly going on.

9239 Q. Is such a consultative process a source of value to the operating companies? A. I am sure it is. As I say, I availed myself of this when I was working for the Milwaukee Company, the result of operations of these different companies have been so outstanding and all point to this conclusion and I am satisfied, myself, that it is of great value to the companies.

Q. Do you consider that a common financial interest is essential to the process? A. Yes.

Mr. Browning: That is all.

9240 *Cross Examination by Mr. Binford:*

Q. Mr. Doolittle, you spoke yesterday of the Inter-company Electric Committee of the North American system? A. Yes.

Q. Who is the Secretary of that Committee? A. Mr. Gerber. Mr. Gerber, of Cleveland.

Q. Is Mr. Gerber also Secretary of the Station Advisory Committee? A. Yes.

Q. That is, I believe it is known as the Station Advisory

—7,213—

Operating Committee? A. Right.

Q. Where is Mr. Gerber's office? A. Cleveland, with the Cleveland Electric Illuminating Company.

Q. Does Mr. Gerber receive a salary or compensation for his work in connection with the two committees you have named? A. Yes.

Q. From whom does he receive such a salary or compensation? A. I can't speak from the record today, but originally, and I assume today, his salary is divided between the participating companies, that is, the companies which have membership on these two committees. 9242

Q. Does he devote his entire time to the work of these two committees or the work incident to their functioning? A. I can't answer that, but I think he has no other important duties.

Q. Does he draw compensation for the performance or the discharge of duties other than for system committees? A. I think not.

Q. How are the expenses incident to Mr. Gerber's work for these committees paid, such as the expenses incident to the compilation and distribution of the reports and other 9243

—7,214—

data which are interchanged? A. I can't answer that question.

Q. Is Mr. Gerber an engineer? A. I think he had engineering training; I am sure he had statistical training, but he is not otherwise engaged in engineering work than the work of these committees.

Q. Has he been secretary of these committees since their inception? A. Since quite early, I believe there were one or

9244 *F. W. Doolittle—By Respondents—Cross*

two short term secretaries that preceded him, but it is substantially true that he has been secretary of these two committees for most of their twenty years of existence.

Q. I believe you stated that in 1936 you retired, as an officer of The North American Company, but you have continued as a director of that company? A. Yes.

Q. And are presently a director? A. That is true.

Q. Are you retained in a consulting capacity by The North American Company at the present time? A. Yes.

9245 Q. And you receive compensation for your activity in this respect? A. Yes.

Q. What proportion of your time, since 1936, have you

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usually spent on the affairs of The North American Company? A. That would be extremely difficult for me to estimate. Normally, when I am at home, at Garden City, I am in the office perhaps twice a week,—that doesn't mean that I go in and do a day's work at a desk twice a week, but that I meet the officers and discuss various matters with them. A considerable part of the time, however, I am away

9246 from New York and at other times, such as this, I may be continuously engaged for several days or perhaps several weeks on some particular matter.

I am afraid I would be unable to estimate the percentage of my time devoted to The North American Company any more accurately than that.

Q. Prior to your retirement as an officer in 1936, you devoted your entire business time to the activities of The North American Company? A. Yes, that is correct.

Q. I believe you heard a part of Mr. Freeman's testimony yesterday and today? A. Yes, I heard a portion of it.

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Q. I think Mr. Freeman gave the names of the members of the Board of Directors of The North American Company, who were also compensated officers or employees of subsidiary companies of the system.

Since you are a member of the Board of the North American I suppose you know what members of that Board are paid officers or employees of The North American Company?

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A. Yes.

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Q. Will you please state their names.

Mr. Browning: (Off the record).

The Witness: As I have stated, I am a director of The North American Company and am on retainer; Mr. Fogarty is Chairman of the Executive and Finance Committee, a paid officer of The North American Company; also, Mr. Freeman, Mr. Moody, Mr. Piske, Mr. Shea, and Mr. Williams.

By Mr. Binford:

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Q. Now, that leaves how many members of the Board of Directors of The North American Company who are not paid officers or employees of The North American Company or of a subsidiary company thereof? A. Only Mr. Murnane.

Q. What is Mr. Murnane's occupation, other than a Director of The North American Company? A. He is engaged in the investment business.

Q. Upon his own account or as a member of a firm, or otherwise? A. I can't answer that, he has associates, and whether they are a firm or what their relationship is, I don't recall. I would have to refresh my memory.

Q. But his associates, so far as you know, are not otherwise connected with The North American Company? A. No.

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Q. Nor any of their affiliates? A. No. I don't know them.

Q. Is there representation upon the Board of the preferred shareholders of The North American Company? A. Yes. I am a Director elected by the proxies of the preferred shareholders.

Q. You are? A. Yes.

9251 Q. And who are the others so elected? A. Let the answer show that I do not know.

Q. How long did you say you had been a Director of The North American Company? A. Since 1925.

Q. There was no representation of the preferred stock on the Board of The American Company until a time subsequent to January 1939, was there? A. Relatively a recent date, I can't state that it was first after the 1939 meeting, but it was not far from that.

Q. So, prior to 1939, you were elected by the vote of the common stockholders? A. That is true.

9252 Q. And you said that you do not know who the other representatives of the preferred stockholders are? A. I am not sure which of the other directors are the other so-called preferred stock directors.

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Q. Then, you can't state whether there was any change in the personnel of the Board of Directors of The North American Company as the result of the amendment of the charter of that company in 1939 which purported to give representation upon the Board to the preferred shareholders?

A. I don't recall what changes were made at the 1939 meeting, and I am not able from memory, therefore to say whether there was any change in the composition of the Board at that time and if so, for what reason.

Q. Were any Directors elected in the year 1940? A. Yes. There are one-third of the Directors elected at each annual meeting.

Q. Did you designate, by yourself or in consultation with anyone else, the names of persons who were to be nominated for the Board of Directors as representatives of the preferred 9254
stock in 1940? A. The question of Board membership has become one of increasing difficulty in recent years. We have lost counsel from our Board, we have lost bankers from our Board, we have suffered through death, loss of the older men of the organization, and in each case we have found difficulty in securing men of background and experience and I think it is safe to say that the problem of getting competent men,—I know in my own case that has been the uppermost problem,—whether that man was designated a nominee of the preferred stock or of the common stock. I, myself, personally, have been in my small way, a considerable more of 9255
a preferred stockholder than a common stockholder and I assume that was one of the reasons for my appearing as a nominee for election by preferred stock proxies. Probably the proxy statement sent out would throw additional light on this subject.

In view of the holding of stock by the directors, I can't say that positively, but I think so.

Q. I don't believe that you answered my question fully.

The Witness: Will the reporter please read the question?

9256 *F. W. Doolittle—By Respondents—Cross.*

(Whereupon, the pending question was read by the reporter.)

The Witness: No, I can't recall that I had any part in any such designation.

Q. Who selects the nominees, or who did in 1940, as representatives of preferred stock and as representatives of common stock on the Board. A. As a practical matter, the officers and directors canvass the situation among themselves, as the Committee of the Whole, and out of their discussions come suggestions that certain people be asked if they will stand for election. I cannot be more specific than that.

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Q. I presume that discussion, up to the point of the canvass, takes place in New York and among the officers and directors located in New York, primarily, isn't that right? A. Undoubtedly most of such discussions take place in New York and the officers and directors who live in New York are most likely to be present at any discussion, but the directors who live elsewhere are often in New York and on such occasions participate, of course, in the discussions.

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Q. You were retained in a consulting capacity by The North American Company.

Just what are your duties in this connection? A Hold myself available for consultation with officers of the company on such problems as they care to discuss with me.

Q. Those problems are primarily of an engineering and operating nature, are they? A. Yes. Rate matters, which of course are a part of operations,—there is rarely any dis-

cussion with me as a director on matters of finance. Those questions won't normally be discussed with me. The question of value of properties, as operating entities, their earning power, their probable future, I have spent some time, a good deal of time, in the past four and one-half years in considering, on the basis of trips through the territories, the reports of the companies, their probable possibilities for future growth, the strength and weaknesses of properties, both of those whose securities are in the fortfolio of North American and other contiguous properties, or properties in other 9260

—7,221—

parts of the country, so while I eliminated from the matters which I would be likely to discuss, or which would be discussed with me, questions of finance, etc., I want specifically to include the questions of values of securities based on their possible productivity.

Q. Your acquaintance with the day to day operation of the system properties and The North American Company has, of course, been less intimate since your retirement as an officer in 1936? A. Correct.

Q. Than it was theretofore? A. That is correct. 9261

Q. At the time of the first investment by The North American Company in North American Light & Power Company, you were active in the affairs of The North American Company? A. Yes.

Q. And I presume you made some investigation as to the underlying values of the operating properties involved in this investment? A. I was junior officer, lately come to the company then, and I, myself, made no field examination of the properties.

9262 *F. W. Doolittle—By Respondents—Cross*

Knowing the general territory being served, I was in, of course, on some of the discussions.

Q. What position did you occupy with The North American Company when The North American Company became

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the dominant investor in North American Light & Power Company?

Mr. Browning: Will counsel define what he means by giving the year? Do you mean the year 1932?

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Mr. Binford: I am speaking of 1932.

The Witness: I was a vice president of The North American Company at that time.

By Mr. Binford:

Q. At that time, did you make an investigation into the status of those properties from any point of view of The North American Company? A. You referred to 1932 at which time The North American Company——

Q. (Interposing) It has been stated that the Insull interests failed to live up to a certain contract which they had entered into in respect to North American Light & Power Company stock issues, and The North American Company, pursuant to its obligation under such contract became the holder of more stock than anyone in respect to common stock. A. Subsequent to that occasion that you mentioned, I spent more time in Chicago and on the property of North American Light & Power Company than before because at the time The North American Company became increasingly responsible for the future of that situation, but I made no examination

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of or report on the physical property of North American
—7,223—
Light & Power Company in 1932, in specific answer to your question.

Q. Nor at any subsequent time? A. From 1932 on to 1936, I was on all the physical properties, from time to time, that is the physical properties of the subsidiaries of North American Light & Power Company and was in frequent touch with the operating men so that from that time on, my contacts with their operations were more detailed than they 9266
had been theretofore.

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Q. Prior to 1932, was the management and supervision of the operating properties comprised within the North American Light & Power Company system left, by the North American Company, largely to Middle West Utility Company? A. The management of North American Light & Power Company was entrusted to the Board of that company on which there was equal representation of the North American Company, and Middle West, together with an advisory committee composed of, I believe, two operating men 9267
from North American properties and two from the Insull properties. The offices of the North American Light & Power Company were in Chicago, the offices of the Middle West Company were in Chicago, and the offices of the North American Company were in New York.

Q. When you refer to "Insull" and "Insull Interests", you are referring to Middle West Company and affiliates, is that right? A. That is true. Under their geographical situation, I think it is safe to say that the management of North

9268 *F. W. Doolittle—By Respondents—Cross*

American Light & Power Company had more frequent and more intimate contact with and access to the Middle West group than it had to the North American group whose offices were located in New York.

Q. As a matter of fact, isn't it true that the Middle West holding company organization supervised the activity of the operating companies of North American Light & Power Company in very much greater detail than was the practice of the North American Company with respect to its direct

9269 —7,225—

operating subsidiaries?

The Witness: Read that back, please.

(Whereupon, the pending question was read by the reporter.)

The Witness: No, I don't think so; except as I have explained, incidental to the geographical location there were more frequent and more intimate contacts, but so far as I know there was no more of a formal attempt to manage on the part of Middle West than

9270 there was on the part of North American Company.

By Mr. Binford:

Q. You are presently an officer of Illinois Terminal Railroad Company? A. Yes—no. I am a director.

Q. Would you say that there has been an improvement in the financial and physical condition of the operation properties of the North American Light & Power Company group since 1932? A. On the whole—yes.

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Q. And how would you say that had been effected,—what would you consider as among the principal factors in that change? A. In the first place, immediately after 1932, Mr. Fogarty, vice president of the North American Company began to devote a substantial part of his time to the financial problems of the North American Light & Power Company group of properties and also to the problem of operating personnel.

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As the result, a rather large office force in Chicago which had rendered management services under contract to the North American Light & Power Company and subsidiaries was gradually eliminated. The problems of management were placed back on the operating heads of the companies and they were given advice and consultation after the pattern that had been used by the North American Company.

Following the improvement of the financial situation and improved credit of companies such as Kansas Power and Light, the problems incident to the integration of that property out of a number of predecessors were cleared up. As the result of these and other similar things, the condition of

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these properties, physically,—their financial set-up and so on, has been steadily improved.

Q. In taking over control and supervision of the North American Light & Power Company, did you notice any great advantages that had been achieved, or obtained by the operating companies of that system which you directly attributed to the holding company management which it had enjoyed before? A. Well, I was not familiar with the properties before they were assembled by the Studebaker group in 1920, or thereabouts, and I would have little means of judging what

9274 *F. W. Doolittle—By Respondents—Cross*

change had come about or what progress had been made up to the date we are using to define North American Company's more active participation,—that is, 1932.

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Q. But, as you have outlined, The North American Company management felt it desirable and acted upon that feeling to reform the existing organization, somewhat? A. Yes, the form of it was changed to more nearly conform to the practices and policies of the North American Company in
9275 dealing with its associated companies, operating companies.

Q. Was the practice of having certain of the heads of operating companies upon the Board of Directors of North American Light & Power Company, in order that the advantage of their advice and consultation might be received, continued as it had been theretofore? A. I would have to refresh my memory on the membership of The North American Light & Power Company Boards; I can't answer that question from memory.

Q. Well, that practice has been subsequently adopted in the case of The North American Company's Board, itself,
9276 hasn't it? A. At the moment, it is very evident in the composition of the Board of Directors of the North American Company. In years past, operating heads of subsidiary companies have been members of the Board, I don't recall any time in which a larger proportion of the operating heads were members of the Board than now, unless it is prior to 1920, when I think the president of the Milwaukee Company and president of the St. Louis Company were each members of the North American Board, in which case there was 100

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per cent. representation on the Board. It fluctuates, as a practice, but it is a good practice in my opinion.

Q. One purpose served, I presume, by such inclusion of officers of operating companies upon the Board of the parent is that the directors have at their meetings sources of first-hand information as to operations which would not be otherwise available? A. That is true, and on general business, industrial and economic conditions in the territories served by those operating subsidiaries.

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Q. Do you have any knowledge of the extent of the supervision of The North American Company over its subsidiaries in respect to their public relations,—by which I mean, their dealings, in this instance, with public boards, regulatory bodies, and their opposition to or sponsorship of legislation affecting their interest? A. Any matters affecting, in the judgment of The North American Company officers, the permanence of the value of the investment or earning power of the subsidiaries is a matter which would be discussed with the men operating that property and under that heading would come various trends,—trends in economic and in 9279 social thought in the various communities,——

Mr. Binford: (Interposing) Mr. Examiner, I have been called before the Commission on another case and I wonder if we could have a fifteen minute recess?

The Examiner: All right, we will recess for fifteen minutes.

(Whereupon, following the taking of a fifteen minute recess, the hearing was resumed.)

9280 *F. W. Doolittle—By Respondents—Cross*

Mr. Binford: Will the reporter repeat the last question?

(Whereupon, the question asked by counsel immediately prior to the taking of the recess was read by the reporter.)

Mr. Browning: Had you completed your answer, Mr. Doolittle?

The Witness: No, I do not think so.

9281 Mr. Browning: Well, complete it at this time.

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The Witness: (Continuing) ——and legislations growing out of such trends.

By Mr. Binford:

Q. Are you familiar with the fact that there is a suit presently pending in St. Charles County, Missouri, wherein relief is being sought, in part, by forfeiture of the charter of the Union Electric Company of Missouri, and of the right of that company to continue to do electric utility business within the State of Missouri? A. I am advised that an action 9282 of that sort has been brought.

Q. Do you know the grounds asserted as the basis for the relief sought in that suit? A. I can't express them in legal terms, but it is my understanding that the allegations made were, of improper influence of Governmental process.

Q. Do you know any more particularly what Governmental process was supposed to be influenced, under the allegation? A. I am not familiar with the details of it.

Q. Does the Board of Directors of The North American Company make it its business to familiarize itself with such

instances as I have mentioned, of conflicts between local regulatory, or local prosecuting officers and its operating company? A. Yes, in the first instance, the officers', and the

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reports are made to the Directors on these matters and questions are asked of the officers by the Directors. The Company does make an effort to inform itself on these matters.

Q. Do you know whether or not there have been other instances in the past few years of charges of improper conduct against officers, or former officers, of the Union Electric 9284
Company System in relation to alleged undue Governmental influence, or in that general field? A. Yes, there have been, and there have been certain changes in the operating personnel of the properties serving the St. Louis District as a result of those charges.

Q. As a matter of fact, this Commission did some investigatory work on this general subject matter, did it not, in the Union Electric Company field? A. Yes.

Q. Were any facts brought to the knowledge of the Board of Directors of The North American Company as to practices along the line which I have suggested which it 9285
did not approve? A. Yes.

Q. Have any similar practices of which the Board of Directors of North American Company did not approve been brought to the attention of that Board in respect to any other companies in the System within the past two or three years? A. One other, and that is, as I recall, Illinois-Iowa Power

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Company.

Q. As a matter of fact, in certain of these instances indictments have been entered, or returned, against certain

9286 persons, based upon activities alleged to have been engaged in by those individuals while they were connected with operating companies of The North American System, is that true? A. That is true.

Q. The activities complained of in these various proceedings, or investigated therein, did not reach the attention of the Board of Directors of The North American Company, as far as you know, until Governmental investigation was begun? A. I think that is true.

9287 Q. To what do you attribute the fact that such incidents or such practices do occur and develop without reaching the attention of The North American Company's Board of Directors? A. The process of leaving the management to local officers and advising and consulting with them is, as I have said, a very delicate one because it involves personalities as well as, or as distinguished from, the physical materials in the engineering field.

In the particular cases which you mentioned, I can only say that the local management,—that the management became too completely localized.

9288 One of the most difficult problems in management is that of securing an assistant, or assistants, who, themselves,

assume a correct portion of responsibility.

In other words, a chief engineer who has an assistant under him finds that an assistant of most value does not run to the chief with every minor problem, nor, on the other hand, does not trust his own judgment on matters in which he is incompetent.

Now, those human relationships are in a delicate balance and my only answer is, that that management, over a certain

period of time, became too highly localized and was not acting on the consulting advice and suggestions of the officers of The North American Company.

Q. The North American Company, through the sponsorship of the Committees which you have mentioned, and otherwise, is of course highly interested in the efficient development and operation of the utility properties, I suppose, but I suppose it is likewise true that it is interested, to some extent, in the manner from a public welfare point of view, in which results are achieved as well as the results themselves? A. That is very true. 9290

Mr. Binford: I have no other questions of Mr. Doolittle at this time. However, I reserve the right to recall him for further examination if it appears advisable in the future course of the hearing.

Mr. Browning: As usual, we object to the reservation.

The Examiner: I will refrain, as usual, from ruling

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until the occasion arises. 9291

Redirect Examination by Mr. Browning:

Q. Mr. Doolittle, when the facts regarding the Union situation, about which counsel has just asked you, were brought to the attention of the officers and Directors of The North American Company, did they immediately change the executive management of the Union Company? A. Those men were pulled out of their positions operating the properties that were under them.

9292 *Elmer L. Lindseth—By Respondents—Direct*

Q. And new executive management sent to St. Louis? A. That is true.

Mr. Browning: That is all.

Mr. Binford: The same reservation.

Mr. Browning: I will recall Mr. Lindseth.

Whereupon, ELMER L. LINDSETH, a witness produced on behalf of the Respondents, having been previously sworn, resumed the stand and testified further as follows:

9293

Direct Examination by Mr. Browning:

Q. Mr. Lindseth, referring to Respondents' Exhibit No. 124, do you wish to add anything to your testimony with respect to Sheet "E" of that exhibit? A. Yes, I do. The

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exhibit related to the comparative bills in communities of various size groups and for a range of average use per month of the companies in The North American System, as related to the average of all other companies in the State

9294 in which those systems operate.

In describing this exhibit, I failed to mention and give adequate credit in the case of Wisconsin Electric Power Company to the fact that the average charge for electric energy is different from the bills, as computed from the rate schedules as filed, due to the operation of the plan which a previous witness for that company has described as the so-called "10-for-1" plan, under which users of electric energy receive that energy at a cost per month lower than the filed bills when they conform, or meet certain conditions specified in the plan.

Specifically, a footnote should be added at the bottom of the exhibit as follows:

f—Without giving effect to "10 for 1" plan of Wisconsin Electric Power Company.

The footnote applies to four horizontal lines of data in the exhibit and the appropriate reference should appear at the following points in the table:

1. In the 4th line after the words "TNACo. present properties" under the caption "WISCONSIN-MICHIGAN SYSTEM". 9296

2. After the 8th line following the words "Average, com- —7,236— bined TNACo. systems above" under the caption "ABOVE SYSTEMS COMBINED".

3. In the lower half of the table after "TNACo. present properties" following the caption "WISCONSIN-MICHIGAN SYSTEM".

4. In the last line of the table after the words "Average, combined TNACo. systems above" under the caption "ABOVE SYSTEMS COMBINED". 9297

The Examiner: The Sheet, as originally admitted in evidence, is amended in accordance with the witness's request; that is, Sheet "E" to Respondents' Exhibit No. 124.

By Mr. Browning:

Q. If I understand you correctly, Mr. Lindseth, the situation in substance, was that the comparison in this Sheet "E" was unfair to the Wisconsin properties of The North

American Company System, since it utilized for those properties the nominal rate without giving effect to the substantial reductions therein, in actual practice under the "10 for 1" plan? A. Yes, that is so. Under the "10 for 1" plan, as has been described in this proceeding, reductions from the filed rates are given to consumers who meet certain requirements, the principal of which is an increased use in energy relative to that used in the previous year. The benefits of the plan are extended to users in several rate classifications
9299 and in communities of all sizes and this particular exhibit —7,237— relates to residential consumers in those communities.

The effect of the operation of the plan in 1938 was a saving to all residential consumers of more than $728,000,—in 1939, the saving was more than $685,000, and as a result, it is correct to say that the comparison as filed in Sheet "E" is less favorable to the combined North American properties in the Wisconsin-Michigan System than actually is the case, due to the fact that this very substantial saving to residential consumers was not included in the calculations.

9300 Q. Mr. Lindseth, I hand you a sheet containing four maps, entitled: "The North American Company Evolution of Electric Transmission in Certain Areas—Showing Lines of 26.4 kv. and Over, as of the Years Shown".

Were these maps prepared under your supervision and the data thereon taken from the records of the respective companies? A. Yes, sir; that is so.

Mr. Brewning: I offer this series of maps in evidence as Respondents' Exhibit No. 140.

Mr. Binford: No objection.

9301

The Examiner: Let the exhibit come in under that number.

(The document referred to was marked as Respondents' Exhibit No. 140 and received in evidence.)

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Mr. Binford: May I ask a question or two in regard to this exhibit?

Mr. Browning: Certainly.

9302

Mr. Binford: Are the transmission lines shown on Respondents' Exhibit No. 140 transmission lines owned by subsidiaries of The North American Company?

The Witness: Well, subsidiaries as defined,—how? Not all these are so-called consolidated subsidiaries of The North American Company.

Mr. Binford: Well, are they all owned by companies within The North American holding company system?

9303

The Witness: With two exceptions,—yes; and in those two cases, rights over the lines for the transmission of energy are retained under lease.

The significance of those is shown in the north central portion of Illinois, the two lines shown "dotted" which have been described by a previous witness in this proceeding and which are owned by the Commonwealth Edison Company interests, but over which, by contract, the Illinois Iowa Power Company

9304 has rights for the transmission and delivery of energy; and a second case is that of the Central Illinois Light Company's transmission lines running from Peoria, Illinois, or a point just south of Peoria, Illinois, known as Junction "A", southward to a point on this transmission line known as Fancy Prairie, on which the Central Illinois Light Company has built, or rather, has installed conductors on towers which had been existing and those conductors have been leased
9305 to the Illinois-Iowa Power Company for their exclu-

—7,239—

sive use. Title, in that case, probably resides in the Central Illinois Light Company, but the sole use is by the Illinois-Iowa Power Company.

Those are the only two exceptions.

Mr. Binford: That is all I wanted to ask, at this time.

By Mr. Browning:

9306 Q. I should like the witness to explain one further point on this exhibit:

The lines on this exhibit are the same, irrespective of their capacity, so long as they are over 26.4 kv., is that correct? A. Yes, that is correct.

Q. And during the periods shown by the respective maps, is it a fact that in additon to the building of new lines, that in many cases old lines were strengthened and made of higher voltage? A. That is emphatically the case. For example, in Kansas, in the territory of the now Kansas Power and Light, and which, in this series of maps, was

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the territory of predecessor companies merged into the Kansas Power and Light, many of the lines shown on this exhibit as transmission lines were first constructed at 33,000 volts. As the demand for energy increased,—and as the requirements of transmission became increasingly exacting,—those very lines were changed from 33,000 volts to 66,000 volts, in many cases, and changed from wood pole construc-

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tion to steel towers. That is a characteristic of transmission line evolution, without apparently being indcated on the maps.

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At the present time, in the territory of Illinois-Iowa Power Company, transmission lines of 66,000 volts are being rebuilt to 132,000 volts. The map will, in this case, indicate no apparent change although the processes of evolution in transmission which are going on constantly are actually in operation.

The significance of these maps is very clearly one that an electric utility system is never in a static state, that neither perfection nor completion is ever reached, and as load demands and service demands increase, those demands are met by construction and rebuilding of existing lines, or the construction and building of new lines to meet those needs.

9309

A striking advance in the service to this territory represented on this map is demonstrated by this series.

Mr. Browning: Will you please mark as Respondents' Exhibit No. 141, for identification, this series of three sheets entitled: "The North American Company

9310 *Elmer L. Lindseth—By Respondents—Direct*

Comparison of Average Residential Monthly Bills in Cities of 50,000 Population (a) and More, Served by Privately Owned Electric Utilities".

Mr. Lindseth, from where did you obtain the data used in making up this exhibit?

A. These data, throughout, are obtained from a series of

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Federal Power Commission reports entitled "Typical Elec-
9311 tric Bills in Cities of 50,000 Population and More."

Q. And the exhibit was compiled under your supervision from data so obtained? A. Yes, it was; and by the methods which are used by the Federal Power Commission in the preparation of these specific data.

Q. The averages are shown for companies not subsidiaries of registered holding companies,—are all such companies privately owned in the country? A. Serving cities of 50,000 population and above,—yes.

Mr. Browning: I offer these tables in evidence as
9312 Respondents' Exhibit No. 141.

Mr. Binford: Mr. Examiner, I do not wish to be in the position of admitting the relevance and materiality of these comparisons without more analysis than is shown supporting the validity of the comparisons.

However, I make no objection to the reception of this exhibit in evidence at this time.

The Examiner: Very well. It is admitted under the number mentioned.

(Respondents' Exhibit No. 141 received in evidence.)

By Mr. Browning:

Q. Are you generally familiar, Mr. Lindseth, with the testimony offered in this case for the Respondents? A.

—7,242—

Within the definition of "generally familiar",—yes.

Q. Since the testimony has been offered with respect to the various operating companies, have any of them arranged to furnish electricity to customers beyond their service areas, as shown by the testimony heretofore introduced? A. Yes, that is the case. 9314

Q. Well, to complete the record here, will you tell us what are those cases? A. Under the very rapidly increasing loads incident to the execution of the Defense Program, it has become necessary, in a number of cases, for The North American Company subsidiaries, and properties in The North American's System, to extend its facilities to meet defense needs in territory usually not considered a part of the territory of these subsidiaries.

Specifically, for example, the United States Navy Department has very markedly increased the capacity and output of a Naval powder plant at Indian Head, Maryland, some thirty miles south of here, on the Potomac River, on the left bank. 9315

This plant, which has been in existence for some time, has heretofore been served with power, or received its power requirements from a power plant owned by the Navy Department there. However, because of engineering reasons, the capacity of their plant was not able to be increased and the Navy Department sought to purchase the necessary energy for increased requirements.

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9316 *Elmer L. Lindseth—By Respondents—Direct*

The territory is served by a utility not a member of The North American Company System, which was quite unable to handle the very large requirement requested by the Navy, —7,000 kilowatts,— and the Navy Department approached, and entered into negotiations with the Potomac Electric Power Company for the construction of a transmission line from Washington, specifically from the Bennings Plant, to Indian Head, Maryland, a distance of about thirty miles.

9317 The Navy Department chose not to have the local utility buy this energy from the Potomac Electric Power Company and have the local utility build this transmission line; rather, the Navy Department insisted and the local utility, Maryland Light and Power Company, agreed to have the Potomac Electric Power Company construct this transmission line outside of their normal service territory to meet this defense need.

The facilities provided are a 66,000 volt transmission line, being built at a cost of $600,000, all of which is being provided by the Potomac Electric Power Company. The term of the contract is five years, but the rate is based on a twenty-

9318 year amortization of the investment on the part of the Potomac Electric Power Company, but no provision has been made in the contract for reimbursement to the Potomac Electric Power Company in the event of cancellation of the contract at any time after the five-year contract period.

This is one illustration of a specific answer to your ques-

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tion,—where the presence of a strong operating property such as Potomac Electric Power Company has made possible the construction of these vital defense needs in an adjoining

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territory where the local power company, by virtue of its capacity and size, is unable to meet the requirements imposed on it.

Q. Tell us of another case. A. There are two or three other illustrations in the territory of the Union Electric Company,—one of which is the power supply for Camp Fort Leonard Woods, near Rollo, Missouri.

This site, of 35,000 acres, was chosen for the Army Training Camp, the electrical demand for which was 7,000 kilowatts. This site is 100-miles southwest of St. Louis, 9320
and is served by two local utilities and an R. E. A.,—the Missouri General Utilities Company and the Missouri Electric Power Company, together with the Laclede Co-operative. However, the requirement of 7,000 kilowatts was quite in excess of any of these suppliers to meet, and only the Union Electric Company whose transmission line passed within 23 miles of the Camp had adequate facilities to meet with such requirements.

The U. S. Army Engineers worked in conjunction with the engineers of the Union Electric Company and have ar-
ranged for the Union Electric Company to provide facilities 9321
on its electric transmission line, the construction of a sub-station there, and the building, by a contractor with funds, in this case, provided by the Government through the R. E. A., to deliver energy from the transmission line of

—7,245—

the Union Electric Company to the Army Camp.

Now, much of the engineering was done by the Union Electric engineers and in this case, they are selling the energy at their transmission line, although serving a load 23 miles distant.

9322 *Elmer L. Lindseth—By Respondents—Direct*

Another case, again affecting the Union Electric Company of Missouri, relates to the Weldon Springs T. N. T. plant which also is outside of the service territory of the Union Electric Company. This, too, is a Government project and is on 20,000 acres of land northwest of St. Louis,—and is for a T. N. T. plant which it is hoped to have in service by September 1st, this year, a very fast construction schedule.

An isolated power plant to be built on the site was quite out of the question, even with Government priorities, from
9323 a construction point of view.

The demand is for an immediate 5,000 kilowatts, up to 8,000 kilowatts, with a likelihood of a 12,000 kilowatt demand in the near future.

The territory is served by a local utility, The East Missouri Power Company, which is wholly unable to supply a load of such character, and again, the Army representatives approached the engineers of Union Electric Company, and those engineers have made the necessary calculations, engineering, designing, and are providing a sub-station, in this
9324 case, and about 6 miles of transmission line are to be built

by the Union Electric Company.

The local power company not only was unable to handle the major requirement of the ultimate project, but was even unable to handle the amount of energy required by the contractors during the construction and it has been necessary for these contractors to provide portable Diesel generating equipment to furnish even the necessary lighting for the night work.

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A third case, in this instance in or near the territory of the Mississippi River Power Company, is the Government shell loading plant at Burlington, Iowa, properly known as the Burlington Cartridge Loading Plant.

Here, the Government will erect a power plant of its own to furnish the steam necessary for the production of energy, but requires 3,000 kilowatts of emergency standby service. The local utility serving the area, the Iowa Southern Utilities, was unprepared to handle a load of this magnitude and the Mississippi River Power Company was approached and has agreed to furnish the necessary 3,000 kilowatts of standby service.

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These three or four instances illustrate the long range planning, thinking, and financing and construction program of The North American Company and the constant providing of facilities not only necessary to meet current needs, but with adequate flexibility and foresight and forward planning to meet extraordinary needs as have arisen from the Defense program.

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Mr. Browning: That is all I have.

The Examiner: We will recess until 2:00 o'clock.

(Whereupon, at 12:40 o'clock, p. m., the hearing in the above entitled matter was recessed until 2:00 o'clock, p. m., that same day.)

—7,248—

9328 *Elmer L. Lindseth—By Respondents—Cross*

AFTERNOON SESSION

The Examiner: All right, gentlemen.

Whereupon, ELMER L. LINDSETH, called as a witness on behalf of the Respondents, having previously been duly sworn, resumed the stand and testified as follows:

Cross Examination by Mr. Binford (Continued):

Q. Mr. Lindseth, in connection with the correction which
9329 you indicated would be made to Sheet E of Exhibit 124 of the Respondents in order to show that the figures there set forth in respect of the Wisconsin Electric Power Company did not give due credit to that company in that the so-called "10 for 1" plan for that company was not reflected, did you make any investigation into any factors which might lead to a similar conclusion in regard to the non-North American companies which are included in the stated averages shown on the table; that is, did you investigate to see whether or not such other companies which in the comparisons made might be entitled to have some adjustment of the figures
9339 shown here because of promotional plans employed by such companies? A. The circumstances are these: These data are in all cases precisely as reported by the Federal Power Commission on representations of the companies reporting.

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In the case of The North American system companies reported, they are in all cases the filed schedules as reported to the Federal Power Commission.

In no case that I know of, nor that has been brought to my attention, is there in use a plan similar to the Wisconsin "10 for 1" plan. The situation is just that.

Q. You do not know of any factors, whether similar to the so-called "10 for 1" plan or dissimilar, which might affect the figures involved in these several stated averages in any similar manner to that in which you sought to correct the figures given for the North American companies in Wisconsin? A. The particular work that was done on this table was done by a rate specialist in my office at The North American Company, who is one of extremely wide experience in rate matters, many years ago was a rate specialist with the Colorado Public Utilities Commission, has been for a 9332
number of years a member of the rate committee of the Edison Electric Institute, and now is, in his capacity as rate specialist at the North American Company, a person abreast of and intimately familiar with rate practices of virtually all companies in the country.

He has supervised the taking off of these data from the Federal Power Commission reports, has made or supervised these calculations, and discussed this thing a great many

times with me when we were laying out and developing this study, and to his knowledge and his experience, which is 9333
much broader than mine, no such case has come to his attention.

Q. So that the only correction for deviations from the filed rates which you have seen fit to make in this table is the deviation in respect of the North American subsidiaries indicated, namely, Wisconsin companies? A. And in the case of the Wisconsin Michigan system, only in the case of the Wisconsin Electric Power Company, which is the only one of those three companies which has the "10 for 1" plan in operation.

9334 *Elmer L. Lindseth—By Respondents—Cross*

Q. Now, with respect to Respondent's Exhibit 140, which purports to reflect the evolution of electric transmission in certain areas served by The North American Company subsidiaries, of course, except to the extent that you noted in your answers to the questions I have already asked you upon this exhibit, no transmission lines not owned by operating companies of The North American Company System are shown on the exhibit? A. Is your question directed to what lines in addition to those we discussed this morning might be
9335 shown?

Q. Yes. I understand there are none. A. Other than the two lines we discussed this morning, to my knowledge there are none.

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Q. Of course, as far as that portion of the exhibit designating the situation in 1910 is concerned, it is impossible to tell from an examination of the exhibit what transmission lines exist in the territory which were not owned by subsidiaries of the North American system? A. Well, that comment would prevail not only as of 1910 but throughout the
9336 entire period of evolution. Lines owned by companies other than those in the North American system are not, of course, shown.

Q. And no distinction is made upon the exhibit purporting to show the evolution of these electric transmission lines as between transmission lines acquired by North American companies and transmission lines constructed by North American companies? A. No such attempt is made, no.

These lines will include the lines built by all predecessor companies of the present North American properties.

Q. So that possibly this exhibit might be more properly captioned as the evolution of ownership of electric transmission lines by The North American Company within certain areas, is not that true? A. No, I do not believe I could quite agree with that, because these drawings have been, in all cases, sent to the field to be checked by the engineering departments of these companies, and they do faithfully reflect those lines which were present in the areas now served

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by the present company in the North American system. 9338

So that a blank spot in the middle of Missouri, in the 1910 map, may be taken as adequate evidence that there were no such lines there in 1910, whether of our ownership or the ownership of any predecessor company now making up either the Union Electric of Missouri or Missouri Power & Light.

Mr. Binford: I have no further questions to ask of Mr. Lindseth and do not expect to have any further questions; however, I would like to make the same reservation as heretofore in respect of further cross examination.

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Mr. Browning: As usual, we object to the reservation.

Redirect Examination by Mr. Browning:

Q. Mr. Lindseth, I am not sure that the record is entirely clear as to what this map purports to show. If I understand the situation correctly, the map shows the transmission lines which existed in those service areas at the time in question, even though they were owned by a predecessor company? A. That is a correct understanding.

9340 Q. So that, in other words, the map which is captioned "1910" shows all of the lines which existed in those service areas at that time, and similarly in the case of each of the other maps? A. That is correct.

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Q. And you want your testimony in response to Mr. Binford's questions to be so understood? A. Yes.

Mr. Browning: Off the record.

(Discussion off the record.)

9341

By Mr. Browning:

Q. Am I correct, Mr. Lindseth, in understanding that the map is intended to relate only to the present service areas of the subsidiaries, in other words, that you are not purporting to show either the presence or absence of lines outside of those service areas? For example, no lines are shown in the state of Minnesota; you are not purporting to show either the presence or absence of lines in Minnesota? A That is correct.

9342 Q. What you are purporting to show is the development of transmission in the present service areas of the subsidiaries, and therefore you have shown all lines which existed in that area on the respective dates, whether owned by present companies or by predecessor companies? A. That is correct.

Mr. Binford: I would like to ask one or two questions that I failed to ask a moment ago.

The Examiner: All right.

—7,254—

Recross Examination by Mr. Binford:

Q. With reference, Mr. Lindseth, to Respondents' Exhibit 141, I note that the figures given there purport to be for cities of 50,000 population and more served by privately-owned electric utilities. You have no comparable figures in respect of cities of like population served by publicly-owned utilities, have you? A. The data are, of course, all available from the original source, the Federal Power Commission typical electric bills in cities of 50,000 population and more. 9344

Q. Why do you restrict your comparisons here to privately-owned electric utilities? Is the comparison more or less favorable than if you included the municipally-owned utilities, in respect of the North American subsidiary companies showing? A. Well, that cannot be determined,—and refer to a comparison of bills between a city served by a privately-owned utility and a city of similar size served by a publicly-owned utility,—because of the inadequacy of municipal or publicly-owned rates, as a basis of estimating the total cost to the consumer.

For example, there is a very marked tax differential, well known, as between publicly-owned utilities, which pay ordinarily no taxes, and privately-owned utilities, which do, and 9345

of necessity include in their bills and charges enough revenue to meet their tax bill.

Q. Well, conceding that there are such different factors involved as to raise doubt as to the propriety of the comparison, yet nevertheless is it not true there are numbered among the cities which have the lowest rates, of the classes

9346 shown on Exhibit 141, cities which are served by municipally-owned or governmentally-owned utilities, that is, conceding that you may have an argument as to whether or not that is a proper comparison or not, but leaving that argument aside for the moment? A. If we speak of the bill alone——

Q. Yes. A. (Continuing)—and which, of course, anyone conversant with rates and charges in the industry knows is in the case of publicly-owned utilities only a part of the
9347 cost of service to the consumer. There are but 21 cities in this size group which have publicly-owned plants. Among those twenty-one are certainly some which do have a lower bill to the consumer for a given amount of electricity than some of the subsidiaries of registered holding companies, some of The North American Company system properties, or some of the companies not subsidiaries of registered holding companies, but the inadequacy of the comparison is obvious.

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The bill for electric service alone is only a part of the cost of service to a consumer when he takes service from a
9348 publicly-owned body.

Q. But if the bill alone were taken into consideration and municipally-owned and other governmentally-owned services were taken into account in the Exhibit 141, the rates would average lower than they do as now computed, is that not true? A. Well, I think it might then be necessary to add an additional column, because these columns, none of them are so captioned as to permit the inclusion of a publicly-owned utility under any of these headings.

Q. Do you know whether the electric utility system in Chattanooga is publicly or privately owned, Chattanooga,

Tennessee? A. Yes, Chattanooga, Tennessee is one of the cities in this group served exclusively by a publicly-owned utility.

Q. Are not the rates there the lowest or next to the lowest of any in a city of over 50,000 population in the United States? A. There are included in this table, as a basis for comparison, in the column "Subsidiaries of All Other Registered Holding Companies," a city which has lower rates than Chattanooga, Tennessee.

Q. What city is that? A. Cincinnati, Ohio. 9350

—7,257—

Q. Which is served by what system? A. Columbia Gas & Electric, Cincinnati Gas & Electric Company.

Q. Is there included within this tabulation any city of over 50,000 population served by the North American system which has lower rates than the city of Chattanooga? A. A. The city of Cleveland, Ohio, with which I am quite familiar, has rates, at 15 kilowatt hours per customer, which are 60 cents per month. No city in the United States, either publicly or privately, has a lower rate at 15 kilowatt hours per month than does Cleveland, either the rates of the 9351 Cleveland Electric Illuminating Company or the municipal plant at Cleveland, both of which are equal.

Q. Is that true as to 25 kilowatt hours per month, and 100 kilowatt hours per month, and the classifications shown upon your Exhibit 141? A. That would not be true at any of those three uses.

Q. So that comparisons may be favorable or unfavorable to a large extent depending upon the units of kilowatt hours per month that you choose at the point at which to make the comparison, is that not true? A. The fallacy to which

9352 *Elmer L. Lindseth—By Respondents—Recross*

you refer is a fallacy which fails to consider the range of uses and an average of a substantial number of companies.

This exhibit purports to do only one thing; it purports

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to compare the rates and charges for the average of twelve cities served by The North American Company with the rates and charges in 186 cities of 50,000 population and more served by privately-owned utilities.

It indicates, for example, that throughout the range of
9353 use, from 25 kilowatt hours per month to 250 kilowatt hours per month, the average rates of the twelve cities served by The North American Company are very substantially lower than the rates served by cities of that size class, whether served by subsidiaries of other registered holding companies or companies not subsidiaries of registered holding companies.

It is seen, for example, that companies not subsidiaries of registered holding companies charge 30 per cent. more for the same amount of energy than do North American Company properties. That is the purpose of the exhibit, and
9354 that is demonstrated herein.

To compare a publicly-owned utility, subsidized in substantial measure in its cost of service, is not a part of this exhibit, nor is it a valid comparison; but these companies are all private enterprises, doing business in industrial and other metropolitan communities of this size class, under substantially equal conditions, the American competitive system; they are within the ability to compare, and especially the more so when we consider averages of very substantial number, such as twelve North American Company cities, almost

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one hundred cities subsidiary of registered holding companies, and thirty or forty cities served by companies not subsidiaries of registered holding company.

Q. But you are not prepared to state that the companies compared have uniform rate schedules, that is to say, that the point of decrease per kilowatt hour, let us say, in a block system, is the same in the case of each company in the table, or anything of that character, as I believe you have already illustrated by your statement relative to taking Cleveland at 15 kilowatt hours per month and making a comparison; 9356
that is to say, the change in rate per kilowatt hour occurs, does it not, at different points in the rate schedules of these different companies that are listed? Do I make my question clear? A. Well, it is a pretty long question by now. Perhaps we could have it read back.

(Whereupon, the pending question was read back by the reporter.)

The Witness: With regard to the uniformity of rate schedules, and any feeling on my part that these companies might serve under schedules which have a 9357
break, so-called, at a uniform point, I can say unequivocably, of course, that these have a wide variety of such schedules and that they do not in any sense of the word have a uniform point at which the rates do

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reduce.

Q. Now, the cities of 50,000 population or over, the statistics concerning which enter into the figures shown on Exhibit 141, include all cities of 50,000 population or over

9358 *Elmer L. Lindseth—By Respondents—Redirect*

in the United States which are served by privately-owned electric utilities, or do they not? A. Yes, the 186 cities included as of 1941 are all the cities in the United States of population of 50,000 or above served by privately-owned utilities.

Q. And that means all not served by municipally or governmentally-owned electric utilities? A. That is right. There are thirteen additional cities not included in this table served exclusively by municipal or other publicly-owned
9359 utilities.

Mr. Binford: Subject to the reservation heretofore made, I have no further questions of Mr. Lindseth.

Further Redirect Examination by Mr. Browning:

Q. Mr. Lindseth, are the categories of kilowatt hours shown here, that is, 25, 100 and 250, standard categories used by the Federal Power Commission for comparative purposes? A. Yes, they are.

Q. Is that the reason that you picked them? A. That is.

9360 Q. Counsel asked you about comparisons with publicly-

owned utilities. If your companies paid no taxes, were subsidized as to capital and did not need to maintain honest depreciation accounts, could your rates be lower?

Mr. Binford: Objected to, on the ground that no proper predicate has been laid for the hypothetical question propounded, and that no such facts have been shown to exist, particularly as to inadequate depreciation, that is, in respect of any particular

publicly-owned electric utility system, or of publicly-owned electric utility systems in general.

The Examiner: Objection sustained.

Mr. Browning: Mr. Examiner, I submit that it is a well known fact that many public utilities take no depreciation, or inadequate depreciation. It is a matter of common knowledge.

The Examiner: Does not that really call for a conclusion of the witness?

Mr. Browning: Counsel is pressing or is attempting to press a comparison which is obviously unfair. 9362

If the North American companies paid no taxes, it would obviously make a tremendous difference.

Mr. Binford: It has not been shown in this record——

Mr. Browning: (Interposing) I want to show, by asking this witness.

Mr. Binford: (Continuing) —that the municipally-owned utilities do not pay the equivalent of some taxes in some form.

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Mr. Browning: I think counsel knows.

The Examiner: Let us go back and read the question as propounded.

Mr. Binford: I insist upon the objection.

The Examiner: I beg pardon?

Mr. Binford: I insist upon the objection.

The Examiner: I understand. I want to reconsider it and see what the question was as originally made.

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Will you read the question, please?

(Whereupon, the pending question was read back by the reporter.)

The Examiner: Off the record.

(Discussion off the record.)

The Examiner: In view of the discussion which has followed, I think that question, after hearing it reread, should be rephrased. I concede that part of it may be proper and relevant and part not.

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I will let you rephrase it, Mr. Browning.

By Mr. Browning:

Q. Mr. Lindseth, do you know that many, if not all of the publicly-owned systems pay no taxes? A. Yes, I know that to be a fact.

Q. If the North American companies paid no taxes, could they reduce their rates materially? A. Yes, they could.

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I have here, as of 1940, the relationship between the

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taxes paid by the electric utilities of several of our properties as related to the electric operating revenue of those properties.

In the case of the Union Electric Company of Missouri and subsidiaries, for example, as of 1940, the taxes charged to electric operations were equivalent to 18.7 per cent. of electric operating revenue.

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In the case of Missouri Power & Light Company, the taxes charged to electric operations were 16.5 per cent. of electric operations.

In the case of Kansas Power & Light Company, the taxes charged to electric operations were 20.2 per cent. of electric operating revenues.

Another group here, in the Wisconsin Michigan system, the electric, so-called electric taxes, that is, those taxes charged to electric operations, were $6,400,000, which were equivalent to 22.4 per cent. of electric operating revenues.

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Were these properties exempt from those taxes and were the rates and charges throughout reduced on an ad valorem basis, that is, assuming that the electric taxes were spread equally over all classes of business, the system could show the same net operating income, the same net for common, that now prevails, with a reduction of 22.4 per cent. in rates.

I can say unequivocally that were these privately-owned utilities in Exhibit 141 exempt from taxes, due to that alone

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their rates would be below the average for electric utilities in the country.

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Were they further to benefit from grants from the Federal Government in the amount of 45 per cent. of the cost of additions built subsequent to the date when the Federal Government began subsidizing such plants and were such capital available free of charge, without taxes, without interest, then the comparison would be even far more favorable to electric utilities because of the inherently more economical operation and greater efficiency.

Mr. Browning: That is all.

9370 *Elmer L. Lindseth—By Respondents—Recross*
David Friday—By Respondents—Direct

Further Recross Examination by Mr. Binford:

Q. The conclusion, from what you last said, which you make is, is it not, inevitably that by reason of their freedom from taxation, municipally-owned plants should, if efficiently operated, be able to supply electric current to consumers at substantially lower rates than privately-owned plants? A. With free capital in the amount of 45 per cent. of the cost of plants and with freedom from taxes, which
9371 might average 20 per cent. of electric operating revenues, and under your further hypothetical premise, which is rather difficult to concede could happen, namely, that they should be under a basis of equal efficiency or economy, then obviously for the same net income that property which has exemption from taxation and free capital must have lower reve-

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nues.

Q. I take it you believe in private ownership of electric utility systems? A. That is a valid conclusion.

9372 Mr. Binford: No further questions.

Mr. Browning: That is all.

(Witness excused.)

Mr. Browning: Dr. Friday.

Whereupon, DAVID FRIDAY, called as a witness on behalf of the Respondents, having first been duly sworn, took the stand, was examined and testified as follows:

Direct Examination by Mr. Browning:

Q. Will you give the reporter your name and address, please? A. My name is David Friday, and my address is 4525 Garfield Street, Washington, D. C.

Q. What is your present occupation, Doctor? A. My present occupation is that of a consulting and advisory economist and official in some research organizations.

Q. How long have you been a research and consulting economist? A. Merely that?

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Q. Merely that. A. Well, since 1925.

Q. What positions do you hold at the present time in the general field of economics and social sciences? A. I am at the present time director and chairman of the board of the 9374
National Bureau of Economic Research, and I am on the general economics committee of the Social Science Research Council; the principal one, as chairman of the board of the National Bureau of Economic Research.

Q. How long have you been a director of that organization? A. Since its inception, that is, some 21 years now.

Q. And were you president of it? A. Yes, I was president of it for two years, from 1938 to 1940.

Q. Can you tell us any economic organizations of which you are a member? A. Well, I am a member of the American Economic organization and Econometrics Society, that is, 9375
of Great Britain, and American Statistical Association.

Q. Are you a member of the American Academy of Social and Political Sciences? A. I am a member of the American Academy of Social and Political Sciences, yes, sir.

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Q. Will you summarize, briefly, your experience in the field of economics and the social sciences? A. Well, I was educated at the University of Michigan and graduated there in 1908, and was made an instructor there in economics, in

that year, and taught economics; and from 1908 to 1911, I also taught a course in public finance there, in two of those years.

In 1911, I undertook the courses in accounting and retained one of the advance courses in economics and a course in public finance.

In 1912, I became an associate professor there in economics and finance, and in 1913, a full professor, and in 1914, became secretary of the courses in commerce. That
9377 was the administrative position at the head of the commerce courses there.

I left the University of Michigan in 1916, and went to New York University, where I was in charge of the graduate courses in value and valuation and also the course in public finance; and in 1917 I became head of the department of economics at New York University.

I left the University work in 1918, in the spring of 1918, April, 1918, to come to the United States Treasury, as economic and statistical advisor there, and plan the war
9378 taxes.

From there I went, in September 1918, to the Telegraph

and Telephone Administration, which was in the Post Office Department, under Postmaster General Burleson, and was advisor in the matter of awarding compensation,—determining compensation for the telegraph and telephone companies during the period of government control, which lasted from January, 1918 to July, 1919.

In September, 1919, I returned to the University of Michigan, as professor of economics and finance, and had

charge of the courses in credit, price levels and business cycles. I remained there until the summer of 1921, when I became president of Michigan Agricultural College, and I was president there for two years, until 1923.

At the end of that time I came to Washington, D. C., and became director of research in the National Transportation Institute, and also lectured at Brookings Graduate School in public finance, and I was there until 1925, when I went to Europe.

Q. Have you acted as advisor to any governmental or 9380
state commissions or authorities? A. Yes.

I was economist in 1911 to the Commission of Inquiry into Taxation. That was a special legislative commission of inquiry appointed.

In 1912 I was advisor to the Attorney General of the state in a 2-cent passenger rate case which he was trying.

—7,269—

In 1914, I was employed by the State Railroad and Public Utility Commission in connection with some matters in electric utilities, particularly Consumers Power Company. I 9381
wrote a corporate history of the Consumers Power Company for the commission there and determined its going value, and later in the year 1914 I was employed by the same commission in the matter of the reorganization of the Pere Marquette Railroad and rewrote the property accounts and income accounts and made a valuation of all their land and right-of-ways in charge of that valuation.

In 1918, as I said, I was with the United States Treasury planning war taxes, and then I went with the Postmaster General.

9382 *David Friday—By Respondents—Direct*

In recent years I have been purely in advisory work and have been employed by the United States Government in various valuation cases involving taxes, particularly.

Q. Did you act as economist for various industries in connection with the N. R. A.? A. Yes. During the N. R. A., the formulation of the codes, I was employed by the retail industries, that is, the National Retail Dry Goods Association and the hardware group, shoe retailers, hardware retailers, and was the economic advisor in connection with the
9383 formulation of that general retail code.

I was also employed by the Retail Tobacco Dealers Association, and was their economist in the matter of the formu-

—7,270—

lation of the code and the marketing agreement.

I might say that in 1921, when we had the Congressional inquiry into agriculture, I was employed as an economist to that committee in its work.

—7,271—

Q. Doctor, from 1910 to date have you appeared as a witness on various economic matters before various courts
9384 and commissions? A. Yes, I have.

Q. Will you mention briefly some of your writings in the field of economics and social science? A. Well, I was teaching at the University of Michigan and I published a book on Reading in Economics. In 1920 I published a book on Profits, Wages & Prices. I also published and prepared Problems in Accounting. I was teaching in that field.

Q. Have you written articles on economic subjects for various magazines? A. Yes.

Q. What professional journals? A. Professional journals, The Journal of Political Economy which is a Chicago University publication; the Quarterly Journal of Economics which is a Harvard publication; The American Economic Review which is an organ of the American Economic Association and The Annals of Social and Political Science. I was assistant Editor on the last named publication from 1921 to 1927, The Annals of Social and Political Science.

Q. Have you also written articles in general magazines on economic subjects? A. Yes. 9386

—7,272—

Q. Can you give us some names? A. The Atlantic Monthly, Manchester Guardian Commercial which is published in Manchester, Review of Reviews, World's Work, the Saturday Evening Post. I wrote quite a number of articles for the New Republic, in fact, I was a contributing Editor on that magazine from 1922 to 1926.

Q. Doctor, will you please mark this printed document titled "Area of Region" as Respondent's Exhibit No. 142.

The Examiner: No. 142 9387

By Mr. Browning:

Q. Did you prepare this report, Respondents' Exhibit 142 for identification? A. I did, yes, sir.

Q. Did you have the assistance of Dillon Glendinning? A. Yes, sir.

Q. Will you tell us who Mr. Glendinning is? A. He is a special research assistant in economics in the graduate school of Princeton, and held that position during the past year.

9388 *David Friday—By Respondents—Direct*

Recently he has been appointed fellow in social sciences for the coming year.

Q. Does this report accurately represent your views on the subject matter contained therein, Doctor? A. Yes, sir.

Mr. Browning: Mr. Examiner, just before offering this report as an Exhibit, I should like to state that our purpose in offering it in this form was to meet the Commission's request for saving time. It made

9389 no difference to me whether we examined the witness on the subject matter as to his views on the matter, or submitted a written report, but we have taken the second alternative in view of the Commission's express desire to save time.

In offering it in evidence I am, of course, in effect offering it as a written statement of the evidence which Dr. Friday would give if questioned to each statement contained in the report.

With that understanding as to the purpose I offer this report as Respondents' Exhibit No. 142.

9390 Mr. Bindford; I object on the grounds, first, it would appear that the exhibit consists of conclusions and opinions of the writer thereof as to matters which must in of themselves be ultimate conclusions in this proceeding to be made by the Commission rather than to be submitted as purportedly evidentiary matter; secondly, numerous statements of fact, that is to say, of broad ultimate fact, for example, the statement of the number of passenger cars, the number of trucks owned on farms, appearing on page 19 of the Exhibit,

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that is merely an example, are set forth in this booklet, while no proper predicate has been made for the making of such statements by this witness.

This is an unsworn publication. If it is to be permitted to be submitted and received in evidence in this case, it would appear that the only manner in which it could be properly received would be as a

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brief or argument rather than as an exhibit in evidence.

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Now, as the Examiner will have noted, this booklet is fairly lengthy. There are ten exhibits there too. This is the first time that counsel for the Division have been favored with a copy of it and I therefore wish to reserve the right after examination of the booklet to further particularize the ground of the objection thereto if necessary, but it seems to me apparent that if this work is to be used in this proceeding, its proper reception is not by way of evidence; not conceding, however, that it could be received as a brief, but if it is receivable as anything it seems to me that is the character in which it should be received.

9393

Mr. Browning: Taking up counsel's objections as I understand them, the first was that the report contained ultimate conclusions. What this report is, of course, is the report of an expert economist.

Mr. Binford: I object to the use of the term "Report". There has been no sworn statement in this testimony that this is a report of anything. On its

9394 *Colloquy*

face it purports to be an interpretation of the phrase —area or region, presumably as used in the Public Utility Holding Company Act of 1935, in fact, the first paragraph of the pamphlet so indicates.

The Examiner: Let counsel finish his argument, Mr. Binford; then you can make one.

Mr. Browning: A report on the economic significance of the region and the reason that we are sub-

—7,275—

9395 mitting it is that one of the tasks of the Commission, and ultimately the courts, will be the construction of this statute. Now one of the phrases in the statute is the phrase "Area or Region". We are submitting this evidence as to the economic view of a region so that its relevancy is obvious.

Counsel objects that there are numerous statements of facts. I submit that the statements of fact contained in the report are only those which Dr. Friday could testify as an economist, and as I stated, my endeavor had been to accept the invitation of the

9396 Commission. The Chairman at the last hearing asked if we could submit something in report form and we do it and the practice is immediately attacked.

A further objection was made that the statement was unsworn. We have asked the witness to state under oath as to whether the report states his views. That was reaching the same result as if we had testified as to all the matters contained in the report.

As to counsel's final remark that he might, or might not have further objections after a thorough

examination of the report, it might well be advisable to take a short recess while both counsel and the Examiner examine it because it is really quite brief, and finally may I say that counsel's whole argument goes again to the weight of the evidence.

The Examiner: Now Mr. Binford, do you want to renew your comments about whether this is a report, and have you anything further to say?

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Mr. Binford: Yes. This appears to be, as far as a 9398
brief survey of it will show, an attempt to urge certain interpretations of the phrase "Area of Region" as used in Section 2 (a) (29) of the Public Utility Holding Company Act of 1935. In fact, in the introduction of the report, the second sentence is as follows: "We are concerned here only with the meaning of the phrase 'Area or Region' as used in the above mentioned provision of the Act," referring to Section 2 (a) (29).

If that isn't a subject for a legal argument, I don't 9399
know what it is, and as far as Chairman calling for any invitation or issuing any invitation for submission of reports, I am not in agreement with counsel for the Respondents if his impression of that request was that reports be submitted by that name which in effect were briefs. The question in issue is one of law as distinguished from a summary of facts which might be proper for the Examiner to receive in evidence. We might as well receive in evidence mere books, law review articles, treatises by economists other than

9400 *Colloquy*

Dr. Friday, and specimens of political science as well as legal arguments not written by economists as to receive this. It is wholly argumentative and based upon the opinion of these two gentlemen who appear to be the authors as to the meaning of the words of the statute. There is no place in evidence for it whatsoever.

Mr. Browning: Could I clarify the issue. Of course counsel and I are going to argue later before the

9401 Commission as to the proper construction of the sec-

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tion of the statute. There is no question about that. The purpose of this report is to put into the record the economic meaning of the word. We will argue later as to the entire question of statutory interpretation. We certainly are entitled to put in economic evidence on that subject.

Mr. Binford: May I ask if counsel also intends to furnish lexicographer to introduce further evidence as to the meaning of words.

9402 The Examiner: Well, gentlemen, on objections of this sort the rule contemplates that they should be in short form, and I have let you gentlemen make these statements in order that your position is made clear in the record. Now we will go off the record for a while. Before doing so, I want to say that I will accept counsel's invitation to examine this for a few minutes and it might be well for the counsel for the Division to do so likewise, so we will go off the record while we look at this, while we review this article.

(Whereupon a short recess was taken.)

The Examiner: I will reserve a ruling as to the admissibility of Respondents' Exhibit 142 for identification. 9403

Mr. Browning: Just to have the record clear, Mr. Examiner, for your ruling on the matter, I understand that counsel's objections are not directed to the form, that is, the fact that a written report is offered in lieu of detailed testimony with questions and answers, but it is rather to the contents of the docu-

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ment itself.

Mr. Binford: That is correct.

By Mr. Browning:

Q. Doctor, you have stated that the report accurately reflects your views on the matters set forth therein? A. Yes.

Q. May I ask you specifically whether the map 10 annexed to the report specifies your views as to the correct limits of the middle west region.

Mr. Binford: I object upon the grounds that it is not shown that the correct bounds of any middle west region has been stated or implied in the question at issue in this case, therefore, the question calls for material that is irrelevant and immaterial. 9405

The Examiner: I will let him answer. I overrule the objection.

Mr. Binford: Note my exception.

The Witness: It does, yes.

Mr. Browning: That is all.

9406 *Colloquy*

Mr. Binford: I have no questions to ask of the Doctor at this time pending the ruling of the trial examiner upon the offer of Respondents' exhibit for identification, No. 142, and I reserve the right for cross examination.

The Examiner: Very well, the witness may be excused.

(Witness excused.)

9407 The Examiner: Before adjoining, I would like to get from Mr. Binford something further on the ques-

—7,279—

tion of the admissibility of the four sheets, Respondents' Exhibit No. 124, and the testimony of Mr. Freeman on related matters, as to which I have reserved a ruling.

Mr. Binford: Mr. Examiner, the last that was said by way of argument in that connection was Mr. Browning's remark to the effect that the argument made by me was one which should be fundamentally

9408 addressed to the weight to be given to the exhibit rather than its relevancy. I can't concede that position. What this exhibit does is to bring into this present case the size of industries for comparison with the size of North American Company and I presume of certain of its divisions, that is to say, the North American System rather than the corporate organization, which are proof of nothing but the fact that there are other organizations in the world as large, or larger than the North American Company.

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That doesn't without an examination into the efficiency of the operation of these companies, their manner of operation, tend in any way to prove that size increases efficiency, or decreases efficiency, or has any other bearing upon the operation of the company.

If this material is relevant, then it would be only appropriate and just that the inquiry be extended further into the intricacies and detail of the operations of these companies.

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The Examiner: I agree the point is whether or not these sheets and the testimony to which you objected is relevant; whether it will open up additional fields,

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other fields, strikes me as being besides the point. The question is whether this is relevant or not, and not to whether it is going to open up other lines of investigation, other fields.

Mr. Binford: I was pointing out the latter point as showing not only was it irrelevant in the ordinary acceptance of the term, but it was irrelevant in that

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it had little meaning standing alone, that is, these data have little meaning standing alone, and could be relevant only in any acceptance to the term by the inclusion of such additional matter that it is beyond the bounds of possibility that such additional matter could be brought into a proceeding of this kind. I suppose that some fact can have some relevancy to any other fact in the world, but from a legal sense, one isn't relevant to the other.

9412 *Colloquy*

The Examiner: I don't know that it would necessarily open up any new fields. I was just thinking out loud for the moment. Have you anything further to add Mr. Browning?

Mr. Browning: Yes. I must say that the argument that the evidence which is offered goes into a new field as an objection to the relevancy is an argument that I have never heard before. I simply don't see what it has to do with its relevancy. The question is—
9413 does the evidence offered bear on the issues in the case. One of the major issues in this case could be paraphrased as—how big is too big? Our position is that you can't decide that question in a vacuum and any one before deciding it, deciding the question, should

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start with an open mind and shouldn't just arrive at the decision by bringing down some answers from the blue sky. For example, as regards area, people have preconceived notions what is big. One of the reports recently prepared by the staff was very much con-
9414 cerned about the size of the U. G. I. area, which I believe was some three hundred odd miles square. The Kansas Power & Light Company, as the testimony in this case has shown, has one operating division that has three thousand square miles in it and they don't think anything of it in Kansas. Now, I don't think that we can decide these things in a vacuum. We have got to have some information, some bases of comparison. I submit that these figures which we have submitted are obviously relevant; they make you think about size. For instance, one of the tests of

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size which might be employed is number of employes. I don't think that the Examiner any more than I did realized the number of employes a great many of these leading businesses have. I can conceive of a person who had not gone into the matter believing that $5,000,000 would be a big utility; it represents only a generating unit today.

I really think that counsel's objection is directed to the weight which is a matter of argument later.

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Mr. Binford: May I gave you an illustration of what I mean?

The Examiner: Yes, Mr. Binford.

Mr. Binford: Suppose that a doctor diagnosing a case tells a lady that she is over weight and should reduce. It certainly seems to me that it doesn't aid

—7,282—

in his diagnosis or his treatment for the lady to point out that Mrs. Jones in the next town was just as fat, or more than the patient.

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The Examiner: If that is an apt illustration, it doesn't weigh much then, does it?

Mr. Binford: It doesn't weigh much but it is so irrelevant it shouldn't be in.

Mr. Browning: May I develop that. The Doctor's opinion on the lady's weight is based upon his knowledge of the weight of both men and women in thousands of cases with complete statistical information in front of him as a result of which he reaches his opinion. If counsel's hypothetical patient told the doctor that there were a number of people her weight who were more healthy since they had gained that

9418

weight, or who were perfectly healthy and gained that weight, that these people lived all around her, he would be a pretty poor doctor if he didn't consider it, so I could take his own analogy.

I don't want to be met with the contention when we argue this size matter that we had the opportunity to put in evidence as to the size in other industries and didn't do it and that is just exactly the contention, not that this counsel would make, but that his successors would make.

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The Examiner: I thank you gentlemen for the arguments that you have made and they will help me in deciding the matter.

I understand that counsel in an off the record discussion have agreed that this matter shall go over to next Tuesday at 10:00 o'clock, a.m. at which time I

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will dispose of the matters that I have under consideration.

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(Whereupon, at 4:30 o'clock, the meeting was adjourned to reconvene on Tuesday, April 15, 1941.)

—7,284—

BEFORE THE

Securities and Exchange Commission

DOCKET NO. 59-10

IN THE MATTER

of

THE NORTH AMERICAN COMPANY, *et al.*

Hearing Room 622,
Securities and Exchange Commission Building,
18th & Pennsylvania Ave., N.W.,
Washington, D. C.,
Tuesday, April 15, 1941.

Met, pursuant to adjournment, at 10:00 o'clock a. m.

Before: WILLIAM W. SWIFT, *Trial Examiner*.

Appearances:

S. PEARCE BROWNING, JR., and
CHARLES S. HAMILTON, JR., of Sullivan & Cromwell, 48 Wall Street, New York, New York, appearing for the Respondents.

RALPH C. BINFORD, appearing for the Securities and Exchange Commission.

9424 *Colloquy*

PROCEEDINGS

The Examiner: The hearing will come to order.

Mr. Browning: I should like the record to show at this time, Mr. Examiner, that we are furnishing to the staff corrections from page 1032 to page 6218, inclusive, of the record. I believe that these corrections cover all the testimony up to the end of March, although I am not certain as to the exact day when
9425 they end.

In any case, we will expect to furnish the staff as promptly as possible with the corrections for the remaining portion of the record.

Meanwhile, it is our suggestion that the staff go over these corrections, with a view to advising us as to their approval or disapproval thereof or any additional corrections which the staff desires made, and we would then suggest that the corrections be made in the record.

Mr. Binford: That procedure is acceptable to us.

9426 The Examiner: All right, I think it is very desirable that these corrections be attended to.

I will wait until the Commission's staff check over this list, and perhaps there will be some additional corrections, at which time we will enter the corrections on the record as part of the record.

Mr. Browning: Off the record.

(Discussion off the record.)

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Mr. Browning: Could we have it understood, Mr. Examiner, that even though the record is closed before

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the staff has had an opportunity to complete its work on the corrections or before we have had a chance to submit the final list, that the corrections can be supplied later and that the record will be reopened for that purpose?

Mr. Binford: That is perfectly agreeable, and we so stipulate.

The Examiner: All right.

Off the record.

9428

(Discussion off the record.)

Mr. Binford: Let the record show that counsel for the Commission are making no request that any further minutes of the two intercompany committees which have been mentioned in this proceeding are requested to be put in evidence, and counsel for the Commission is undertaking to return the series of minutes which were delivered to the staff for inspection.

Mr. Browning: Off the record.

9429

(Discussion off the record.)

The Examiner: With reference to the question of the admissibility of Sheets C, D, F and I, which form a part of Respondents' Exhibit 124, and the motion to strike which Commission's counsel has lodged against a small portion of the Witness Herbert C. Freeman's testimony (Transcript Pages 7,012 to

—7,287—

7,014), I have reached the conclusion that such evidence is relevant and that the objections are really

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directed to the weight thereof, rather than to its relevancy.

The motion to strike is denied, and Sheets C, D, F and I are now admitted in evidence, along with the other sheets contained in Respondents' Exhibit 124 which have heretofore been received.

Mr. Binford: I respectfully except to each of the rulings of the Examiner contained in the statement last made.

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Mr. Browning: Off the record.

(Discussion off the record.)

The Examiner: Now Mr. Binford, turning to the other matter which I have under advisement, have you considered further the contents of the exhibit which was marked for identification as Respondents' Exhibit 142, and have you anything further to say about it?

I recall in some of your remarks you indicated you might like to particularize your objections.

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Mr. Binford: In view of the nature of the argument, it is difficult to particularize my objection any further than I have.

The Examiner: All right.

Mr. Binford: I still urge the objection.

The Examiner: Were this a legal proceeding rather than an administrative proceeding, the article in question would be clearly inadmissible. Since this

is an administrative proceeding, where commonly established rules of evidence are relaxed, and since

Dr. Friday and the co-author of the article, Mr. Glendinning, are available for cross-examination by Commission's counsel, if cross-examination is desired, I have reached the conclusion that the article is relevant in some aspects at least, although it is in places somewhat argumentative.

The said article is admitted in evidence as Respondents' Exhibit 142, subject however to the right of cross-examination not only of Dr. Friday but of the co-author, Mr. Glendinning. 9434

Furthermore, if anything develops on such cross-examination of these witnesses as may be had, the counsel for the Commission may move to strike if he considers that the situation justifies such a move.

Mr. Binford: I respectfully except to the ruling of the Examiner in admitting the exhibit in evidence.

In view of the fact that this document has been admitted in evidence, there are a few questions which I would like to ask Dr. Friday, if he were recalled.

Counsel will remember that I stated that I did not know whether I would have cross-examination until 9435 the Trial Examiner ruled as to whether the document was admissible or not.

Mr. Browning: Off the record.

—7,289—

(Discussion off the record.)

Mr. Binford: Now as to Mr. Glendinning, possibly it will not be necessary to cross-examine him, but I would like to have him available for cross-

9436 examination, so that if the cross-examination of Dr. Friday indicates that some questions are advisable to Mr. Glendinning, he can be examined at that time.

Off the record.

(Discussion off the record.)

Mr. Browning: From time to time, Mr. Examiner, Commission's counsel has reserved the right to recall each witness produced by the Respondents and we
9437 have objected to such reservation and you have reserved the ruling.

I understand that those motions will be considered withdrawn when the record is closed?

Mr. Binford: That is correct.

The Examiner: All right.

Mr. Browning: Off the record.

(Discussion off the record.)

Mr. Binford: Mr. Examiner, it is now about eleven o'clock, and I should like to request a recess of about
9438 an hour before we proceed further with this hearing.

The Examiner: All right, we will recess until twelve o'clock.

(Whereupon, a recess was taken, as above.)

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(After recess) (12:10 p. m.)

The Examiner: We will resume.

Whereupon, DAVID FRIDAY, (Resumed) a witness produced by the Respondents, having previously been sworn, resumed the stand and testified further as follows:

9439

Cross Examination by Mr. Binford:

Q. Dr. Friday, I believe you testified you and Mr. Glendinning are the author of this Exhibit 142, entitled "Area or Region", which was put in evidence? A. Yes, sir.

Q. Mr. Glendinning is a "fellow" did you say, of Princeton? A. He was graduate student there, and is a fellow for this coming year; graduate student in the Graduate School and also assistant to Professor Frank Graham there.

Q. You testified before the Committee on Interstate and 9440
Foreign Commerce of the House of Representatives in opposition to the Public Utility Holding Company Act of 1935, did you not? A. Yes, sir.

Q. And whom were you representing at that time? A. I was representing the Holding Company Executives. The

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Association of Holding Company Executives, I believe, was the exact name.

Q. You were, of course, a compensated expert on their behalf? A. Yes, sir.

Q. That is true at the present time, is it? A. That is true 9441
at the present time.

Mr. Browning: Off the record.

(Discussion off the record.)

The Witness: My statement in the affirmative was only directed to the question as to whether I was being compensated now as an expert.

I did not imply that I was being compensated by the Holding Company Executives, or whether I was working for them. I am not either one of those things.

9442 *David Friday—By Respondents—Cross*

By Mr. Binford:

Q. That is, not by the same Association of Holding Company Executives, but rather by The North American Company? A. By The North American Company, yes sir.

Q. Were you ever regularly retained as an economic advisor, or in any other capacity other than you have already mentioned, by the Committee of Public Utility Executives? A. No, sir.

9443 Q. Have you been retained at any time as an economic advisor to any public utility holding companies, or in any

—7,292—

other capacity? A. By holding companies?

Q. Yes, public utility holding companies. A. I have been retained by some operating companies. I do not remember any——

Q. (Interposing) What were the operating companies? A. Well, I was retained by the Georgia Power Company, the rate case there; I was retained by the New Jersey Public Service Company, in a rate case that they had; I was retained
9444 by Louisville Gas & Electric in 1933, in a rate case; and I was retained during the last year, that is, in March of last year, by Puget Sound Power & Light, in a condemnation case, involving the determination of the value of some property in Whatcom county, Washington, which property was being condemned by the Public Utility District of that county.

Q. Did you take the position in your testimony, in part, in opposition to the bill which eventually became the Public

Utility Holding Company Act of 1935, that the operations of public utility companies within the meaning of that measure, as distinguished from those of railways, for example, were so essentially local in character as to make them amenable to sufficient state regulation as far as the public was concerned? A. I do not remember what position I took on that particular question, whether I took any. I would have to

—7,293—

read the brief again, the brief I filed with the committee, which you have. I do not remember that. 9446

Q. You also testified orally in addition to filing the brief? A. Yes, sir.

Q. You would not say that you did not take that position, would you? You just do not recall. A. No, I would not say that.

Q. You speak in the treatise which was introduced in evidence as Exhibit 142, of a science of regionalism. When did you say that science had been developed and recognized as such? A. Yes, sir.

Mr. Binford: Please read the question. 9447

(The pending question was read back by the reporter.)

The Witness: Well, I do not remember what I said. I did make a remark to the effect that for over 50 years it had been in the making, but not in the economic sense so much as it is now. It is particularly over the last 20 years, and certainly very intensively over the last decade, that this has had activity.

9448 *David Friday—By Respondents—Redirect*

I, myself, of course, was interested in it 20 years ago, when I was at the Michigan Agricultural College, as president.

By Mr. Binford:

Q. Your occupation at the present time is that of con-

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sulting economist? A. That is correct.

9449 Q. Your clients are industrial companies, primarily—mostly? A. No, they are not.

Shall I tell you who they are?

Q. If you wish. A. I have been engaged over the last four or five years primarily for individuals and the United States Government in matters involving the valuation of properties, particularly the stocks, for purposes largely of gift taxes, administering the gift tax law and the State tax law, and that does not involve employment by corporations, industrial or otherwise. It is either by the Government or by the person or persons that are obligated for the tax.

9450 Q. Is this Exhibit 142 your first monograph on regionalism? A. That is my first formal monograph on regionalism, yes, sir.

Mr. Binford: I have no further questions.

Redirect Examination by Mr. Browning:

Q. You were asked whether you have been compensated for your work here or would be compensated, and you replied in the affirmative. Does the fact that you are compensated or

—7,295—

will be compensated affect the views which you have expressed? A. No, sir.

Mr. Browning: That is all.

Mr. Binford: No further questions.

(Witness excused.)

The Examiner: Off the record.

(Discussion off the record.)

9452

Mr. Binford: Mr. Examiner, I suggest at this point that we recess until two o'clock.

The Examiner: Very well, we will now recess until two o'clock.

(Whereupon, at 12.30 o'clock, p. m., the hearing was recessed to reconvene at 2:00 o'clock, p. m. of the same day.)

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Colloquy

(2:00 p. m.)

AFTERNOON SESSION.

The Examiner: Let us proceed.

Mr. Binford: Mr. Examiner, as the Rules of Practice of the Commission do not provide for an Examiner's report in proceedings of this character, it would appear that the next step in this proceeding, after the closing of this hearing, will be the submission to the Commission of requested findings of fact by

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counsel for the Commission and by counsel for Respondents.

In order that counsel for Respondents may be fully apprised of the nature of the findings which will be requested by counsel for the Commission, I think that it is appropriate that I state at this time, without undue particularization and without argument, the ultimate facts which counsel for the Commission will contend have been established by the evidence adduced in this proceeding, and in accordance with which position our requested findings of fact will be

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framed.

We take the position that the evidence herein establishes the following facts:

The holding company system of The North American Company is not confined in its operations to those of a single integrated public utility system within the meaning of the Public Utility Holding Company Act of 1935, and to such other businesses as are reasonably incidental, or economically neces-

sary or appropriate to the operations of such integrated public utility system.

—7,297—

The electric utility system of Potomac Electric Power Company and Braddock Light & Power Company, Inc. together constitute a single integrated public utility system. Washington Railway and Electric Company, the registered holding company, which is the immediate parent of Potomac Electric Power Company and which controls Braddock Light & Power 9458
Company, Inc., controls no other utility properties within the meaning of the Act. It has not been shown that the businesses of Capital Transit Company and the latter's subsidiaries, nor of Great Falls Power Company, are reasonably incidental, or economically necessary or appropriate to the operations of the integrated public utility system represented by properties and operations of Potomac Electric Power Company and Braddock Light & Power Company, Inc.

Cleveland Electric Illuminating Company's properties and operations constitute those of a single in- 9459
tegrated public utility system. The businesses of The Power & Light Building Company and the Ceico Company, subsidiaries of Cleveland Electric Illuminating Company, are reasonably incidental, or economically necessary or appropriate to the operations of the integrated public utility system of Cleveland Electric Illuminating Company.

Likewise, the steam heating business carried on by Cleveland Electric Illuminating Company, is, to its present extent and at the present time, reasonably

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incidental, or economically necessary or appropriate to the operations of the integrated public utility system of that company.

The electric utility operations of Wisconsin Electric Power Company, Wisconsin Gas & Electric Company and Wisconsin-Michigan Power Company constitute those of a single integrated public utility system in so far as such electric utility operations are concerned.

9461 The businesses of the two non-utility subsidiaries of Wisconsin Electric Power Company, namely, Wisconsin General Railway Company and Milwaukee Electric Railway & Transportation Company, and the subsidiary, Badger Auto Service Company, of the latter, have not been shown to be reasonably incidental or economically necessary or appropriate to the operations of the integrated electric public utility system of which Wisconsin Electric Power Company's operations constitute a part. The heating business done in connection with the operation of this system appears, 9462 to its present extent and at the present time, to be reasonably incidental, or economically necessary or appropriate to the operations of the system.

Union Electric Company of Missouri is a registered holding company as well as a public utility company. The electric utility operations of Union Electric Company of Missouri and of its electric utility subsidiaries, namely, Union Electric Company of Illinois, Mississippi River Power Company, Iowa

Union Electric Company, Cupples Station Light, Heat and Power Company and St. Charles Electric Light and Power Company constitute those of a single integrated public utility system within the meaning of the Act.

Union Electric Company of Missouri has three active subsidiaries which are not utility companies within the meaning of the Act. These companies are Union Electric Land and Development Company, St. Louis & Belleville Electric Railway Company and St. 9464
Louis & Alton Railroad Company. The business conducted by Union Electric Land and Development Company is presently reasonably incidental, or economically necessary or appropriate to the operations of the integrated electric public utility system of the Union Electric Company of Missouri group. The businesses of St. Louis & Belleville Electric Railway Company and St. Louis & Alton Railroad Company are not reasonably incidental, or economically necessary or appropriate to the operations of such system. The heating business conducted by Union Electric 9465
Company of Missouri appears to be reasonably incidental, or economically necessary or appropriate to the operations of the Union Electric Company of Missouri group electric utility system. Union Colliery Company is a direct subsidiary of Union Electric Company of Illinois. The business conducted by Union Colliery Company does not appear to be reasonably incidental, or economically necessary or appropriate to the operations of the system.

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9466 *Colloquy*

Union Electric Company of Missouri, as a registered holding company, must be required to limit its operations in accordance with what has been said.

Within The North American System proper, that is excluding for the moment properties in the North American Light & Power Company system, the Washington Railway and Electric Company system, the Cleveland Electric Illuminating system, the Wisconsin-Michigan system or the Union Electric
9467 Company of Missouri system might be retained by The North American Company as its single integrated system, but if any one of these systems be so retained by The North American Company, the retention of none of the others would be permissible by The North American Company as an additional system under the provisions of Section 11(b) (1) of the Act, and this would be true not only because of paragraph B of that section but also because such retention would not meet the requirements of either paragraph A or paragraph C of the Section.

9468 The business conducted by the non-utility subsidiaries of The North American Company, namely 60 Broadway Building Corporation, North American Utilities Securities Corporation and West Kentucky Coal Company (the New Jersey corporation) and the latter's direct and indirect subsidiaries are not reasonably incidental, or economically necessary or appropriate to the operation of any single integrated system presently controlled by The North American Company and the retention thereof, consequently, is

not permissible under the Act, regardless of what system is retained by The North American Company as its "principal" single integrated system.

Now as to North American Light & Power Company:

North American Light & Power Company is a registered holding company. The holding company system of North American Light & Power Company is not confined in its operations to those of a single integrated public utility system within the meaning of 9470
the Act and to such other businesses as are reasonably incidental, or economically necessary or appropriate to the operations of any such single integrated public utility system.

The retention by The North American Company of its interest in North American Light & Power Company cannot be justified as the retention of a public utility system or systems additional to any single integrated public utility system which The North American Company might retain as its "principal" integrated public utility system, nor could that interest be 9471
retained as constituting one in a business reasonably incidental, or economically necessary or appropriate to the operations of any such "principal" system.

North American Light & Power Company must be required to take such steps as shall be necessary to limit its operations to those of a single integrated public utility system and to such interests in other businesses and to such other additional systems as

9472

Colloquy

may, respectively, be permitted under the terms of the Act.

North American Light & Power Company has four direct subsidiaries which are public utility companies within the meaning of the Act. These are The Kansas Power and Light Company, Missouri Power & Light Company, The Blue River Power Company and Nebraska Natural Gas Company. The physical properties of Nebraska Natural Gas Company have been sold, or
9473 at least such sale has been approved by this Commission and is in process of consummation, so that Nebraska Natural Gas Company will have ceased to be a public utility company within the meaning of the Act within the next few days, and it has been stated that the company will be thereupon dissolved, and therefore any consideration of that company's operations will be unnecessary.

The Electric utility system of The Kansas Power & Light Company together with the facilities and operations of The Blue River Power Company con-
9474 stitute a single integrated public utility system within the meaning of the Act.

The heating business of The Kansas Power & Light Company, to its present extent and at the present time, would appear to be susceptible of retention by The Kansas Power and Light Company as an interest in another business permissible under Section (11)(b)(1), but the transportation, water service and manufactured ice business engaged in by that company are not reasonably incidental, or economic-

ally necessary or appropriate to the operations of its utility systems.

The electric utility system of Missouri Power & Light Company, with the exception of its properties and operations in Henry county, Missouri, constitute an integrated public utility system within the meaning of the Act. The facilities in Henry county are not interconnected with those of the remainder of the system, nor are the operations in that locality otherwise susceptible of inclusion within the integrated electric 9476
public utility system of the company.

The heating business conducted by Missouri Power & Light Company, to its present extent and at the present time, appears to be retainable as a business reasonably incidental, or economically necessary or appropriate to the operations of the electric utility system of Missouri Power & Light Company. The water business and ice business conducted by the Company would appear to be not so retainable.

North American Light & Power Company has two direct subsidiaries which are holding companies with- 9477
in the meaning of the Act and are registered as such. These are Illinois Traction Company and Northern Natural Gas Company.

Illinois Traction Company has four direct, active subsidiaries; namely, Cahokia Manufacturers Gas Company, Kewanee Public Service Company, Western Illinois Ice Company and Illinois-Iowa Power Company.

9478 *Colloquy*

The electric utility operations of Illinois-Iowa Power Company, conducted by it directly, as distinguished from those carried on by its subsidiaries operating in Iowa, with certain exceptions, constitute those of a single integrated public utility system.

The electric utility operations of Kewanee Public Service Company can be regarded as a part of this single integrated public utility system, in so far as retention of control thereof by Illinois Traction Company is concerned.

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The electric facilities of Illinois-Iowa Power Company in and about Jacksonville, Enfield, El Dorado and Shawneetown, and Mound City and Cairo, are not interconnected with each other nor with any other portions of the Illinois-Iowa Power Company's electric utility system, nor have they been shown to be so susceptible of interconnection therewith as to render the consideration thereof as a part of the single integrated electric public utility system of Illinois-Iowa Power Company and Kewanee Public Service Company permissible under the Act.

9480

Moreover, it does not appear that the retention thereof as systems additional to the large single integrated electric public utility system of Illinois-Iowa Power Company and Kewanee Public Service Company can be justified under paragraphs A or C of Section 11(b)(1) of the Act.

Western Illinois Ice Company does no business of a character which would justify the retention thereof

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by Illinois Traction Company.

Illinois-Iowa Power Company, in addition to being a public utility company, is a registered holding company. Therefore, it, also, must limit its operations in conformity with the provisions of Section 11(b)(1) of the Act.

In addition to the single integrated electric utility system heretofore delineated and to the other electric utility operations, Illinois-Iowa Power Company has a subsidiary which is both a public utility company and a registered holding company, ~~namely,~~ Des Moines 9482
Electric Light Company, the sole subsidiary public utility company of which is Iowa Power and Light Company.

The electric utility operations of these two companies constitute those of a single integrated public utility system. The gas utility operations of these two companies, likewise, constitute those of a single integrated gas utility system.

Neither the gas utility system of the Iowa companies nor the electric utility system of such companies could be retained, under the standards of para- 9483
graphs A and C of the Act, by a holding company retaining the Illinois electric or gas utility systems of the Illinois-Iowa group; nor can such Iowa operations and Illinois operations be regarded as together constituting those of a single integrated public utility

system.

Illinois Terminal Railroad Company and Central Terminal Company are non-utility subsidiaries of

9484 *Colloquy*

Illinois Iowa Power Company. The businesses of these companies are not reasonably incidental, or economically necessary or appropriate to the operations of any single integrated public utility system which might be retained by Illinois-Iowa Power Company.

Northern Natural Gas Company is a subsidiary of North American Light & Power Company and is a registered holding company, its subsidiaries being Peoples Natural Gas Company and Argus Natural
9485 Gas Company, Inc., each a gas utility company.

It is my understanding that an application has been filed on behalf of Northern Natural Gas Company for a reclassification of its stock and that a disposition thereof is expected to be made in the very near future.

Under these circumstances, it may be unnecessary to give further consideration to these companies at this time.

Power & Light Securities Company is not susceptible of retention by North American Light &
9486 Power Company in connection with any integrated public utility system.

North American Light & Power Company must limit its operations to one of the single integrated public utility systems presently controlled by it. Except as has been previously pointed out in this statement, no two or more of such integrated public utility sys-

tems can be retained by North American Light & Power Company under the provisions of paragraphs A, B and C of Section 11(b)(1) of the Act.

Similarly, and with the exceptions heretofore stated, Illinois Traction Company must limit its operations to those of a single integrated system, as must Illinois-Iowa Power Company and Northern Natural Gas Company.

In view of the relative unimportance of the gas utility operations by the companies of The North American Company system, it would not appear probable that any one of such systems would be retained as the principal integrated utility system of any of 9488
the several holding companies in the system.

Evidence has been adduced upon the part of the Respondents tending to show that these numerous gas utility systems might be retained under the standards of paragraphs A and C of the Act as systems additional to the electric utility systems in connection with which they are presently operated.

I am not prepared at this time to state to what extent this appears to have been proven. It may be that counsel for the Commission will merely request specific findings of fact in this respect, leaving the 9489
ultimate question for decision by the Commission without any requested findings in respect thereto.

The Commission will be asked to enter an order directing The North American Company, North American Light & Power Company and each of the other

registered holding companies within The North American system to take such steps as may be necessary to limit their respective holdings and operations in accordance with the findings so requested.

9490 *Colloquy*

The status of Pacific Gas and Electric Company and that of The Detroit Edison Company are presently being litigated. It is the claim, in each case, of The North American Company that these two companies are not subsidiaries of The North American Company.

If these companies are finally determined to be subsidiaries of The North American Company, whether or not each constitutes a single integrated utility system within the meaning of the Act, neither
9491 could be retained by The North American Company as a system additional to any other system presently admitted to be controlled by it, because of the requirements of paragraphs A, B and C of Section 11(b)(1).

Furthermore, if the interest of The North American Company in these two utility companies is regarded as an investment, it is an investment, in each case, which cannot be retained by The North American Company under the provisions of Section 11(b)(1) of the Act.

9492 Mr. Browning: Off the record.

(Discussion off the record.)

Mr. Binford: Mr. Examiner, if counsel for the Respondent will place in evidence the following:

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1. Consolidating balance sheets covering the entire system, that is, the system of The North American Company and all subsidiary holding companies and operating companies therein for the past three calendar years, 1938, 1939 and 1940, together with

operating statements for the same period covering all companies, and surplus analyses for the same period in respect of the same companies, such financial information to be submitted in the same form as required for the so-called U-5S statements of the respective years covered;

2. For the calendar year 1940, the same information relative to compensation of officers, directors and employes, as required by the U-5S statement of the Commission in force at the present time; 9494

3. A copy of the charter and by-laws of The North American Company as amended to the present time;

4. Certain statistics on certain operating subsidiaries for the year 1940, in form to be agreed upon by counsel; and

5. Certain data heretofore agreed to be supplied by Witness Hight on the expenses of the Decatur general office; counsel for the Commission will then withdraw, if satisfactory to counsel for Respondents, the documentary evidence heretofore offered on the part 9495 of the Commission, in its entirety, with the exception of the exhibits relating to the matters of notice of hearing, designation of trial examiner, service of

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process, and other procedural rather than substantive matter.

Mr. Browning: Could I restate our understanding, simply to be clear?

I would prefer that the record show that counsel's exhibits, with the exception of the last mentioned

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procedural exhibits, are withdrawn upon the understanding which we now confirm, that the Respondents' counsel will furnish the additional matter which is tabulated above.

In other words, I would like the record to be clear that the Commission's exhibits are withdrawn upon that understanding.

Mr. Binford: That is satisfactory to us, on the furnishing for the record of the information so suggested in my previous statement.

9497

The Commission's exhibits, with the exception mentioned, will be deemed to be automatically withdrawn from this case.

Mr. Browning: As to the time of furnishing the information requested, I should like to leave it that we will do our very best under the circumstances.

As we have pointed out, certain of the information may not be quite ready as yet. We will furnish the information as promptly as possible.

Mr. Binford: Well, of course, we expect them to

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be furnished in a reasonable length of time, at such time as can be referred to if necessary in any findings

and briefs that may be filed.

Mr. Browning: Off the record.

(Discussion off the record.)

The Examiner: When this data is supplied, it will be incorporated in this record by me, as soon as received, under appropriate exhibit numbers, starting

with the next number, which is Respondents' Exhibit 143.

Counsel, of course, will inform me when he has completed filing the data specified in the stipulation above agreed upon.

Mr. Browning: Off the record.)

(Discussion off the record.)

Mr. Binford: Mr. Examiner, may I state for the record that the exhibits excepted in my statement, 9500
that is, those that are to be retained in the record as exhibits of the Commission, are those numbered from 1 to 9, inclusive.

The others are those which are to be deemed to be withdrawn upon the furnishing of the several exhibits by counsel for the Respondents.

The Examiner: I think it is well to have that clearly in the record, Mr. Binford.

Mr. Browning: Could I state my understanding for the record, that it is not necessary to offer Respondents' answer in evidence, or any of the other 9501
pleadings?

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The Examiner: Yes, I think that is in order.

Mr. Binford: And not only pleadings, but also orders.

Mr. Browning: Yes.

Mr. Binford: I agree.

Mr. Browning: Yes.

9502 *Colloquy*

Mr. Binford. Counsel for the Commission has nothing further to offer. We rest.

Mr. Browning: Counsel for the Respondents have nothing further to offer at this time, but we wish to have the time determined for the submission of findings of fact, or request for findings of fact.

The Examiner: Well, under the rules of practice, that is a matter for the Commission to pass upon, and I do not see any need for going into that here.

9503 Mr. Binford: Off the record.

(Discussion off the record.)

The Examiner: I want to inquire now of counsel for both sides if you are ready for this record to be formally closed?

Mr. Browning: Counsel for the Respondents are ready, subject to the various understandings into which we have entered, regarding corrections and furnishing these further exhibits, et cetera.

Mr. Binford: And counsel for the Commission are

9504 in accord with that respect.

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The Examiner: Very well, subject to the matters which are mentioned in the stipulation to be supplied at a later date, the record in this matter is now closed.

(Whereupon, the record was closed, as above.)

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Oral Argument 9505

BEFORE THE

Securities and Exchange Commission

WASHINGTON, D. C.

Docket No. 59-10

IN THE MATTER

of

THE NORTH AMERICAN COMPANY, *et al.*

9506

Hearing Room 1102,
Securities and Exchange Commission Building,
Washington, D. C.,
Monday, June 2, 1941.

The above matter came on for oral argument at 2:30 o'clock, p. m.

Before:

EDWARD C. EICHER, Chairman, 9507

ROBERT E. HEALY, Commissioner, and

SUMNER T. PIKE, Commissioner.

Appearances:

S. PEARCE BROWNING, JR., and CHARLES S. HAMILTON, JR., of Sullivan & Cromwell, 48 Wall Street, New York, New York, appearing for the Respondents.

RALPH C. BINFORD, appearing for the Securities and Exchange Commission.

9508 *Argument of Ralph C. Binford*

Chairman Eicher: Before beginning the argument, may it be stipulated by counsel for both sides that Commissioner Henderson, who cannot attend the oral argument this afternoon, may participate in the decision provided he reads the transcript of the argument?

Mr. Browning: Yes.

Mr. Binford: Yes.

Chairman Eicher: You may proceed, Mr. Binford.

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Argument of RALPH C. BINFORD, on behalf of the Securities and Exchange Commission.

Mr. Binford: As the Commission knows, this proceeding was initiated on March 8, 1940, for the purpose of determining what action The North American Company, a registered holding company, and its subsidiary registered holding companies and other subsidiaries, should take in order to limit their operations as required by Section 11(b)(1) of the Public Utility Holding Company Act.

9510 It was directed,—that is to say, the notice and order instituting the proceedings so stated,—not merely to restricting The North American Company in its operations, in accordance with Section 11(b)(1), but to the determination of what steps each sub-registered holding company within the system should take to limit the operations of such system in accordance with the provisions of the Act.

The North American Company filed an answer in which it tentatively took the position that it admittedly had sev-

eral systems within the meaning of "integrated utility systems" under Section 2(a)(29) of the Act, and that it would select what it contended to be such a system existing in and around St. Louis, as its principal system, and would seek to retain a system operated by Cleveland Electric Illuminating Company in Northern Ohio, as an additional system.

However, shortly after hearings began—in fact, almost as soon as they began—before the Trial Examiner, upon a question of evidence which was brought before this Commission, The North American Company was permitted to amend 9512
its answer so as to provide that it was not committed to the proposed course of action suggested in its answer, the assertion being made that that was based upon the theory that it would be allowed to proceed without the continuance of these proceedings.

Accordingly, no definite position has been taken by The North American Company nor by any of its subsidiary companies on this record up to May 23, when the requested findings of fact, and briefs in support thereof, were filed both by Commission counsel and by counsel for the respondents other than North American Light & Power Company and its sub- 9513
sidiaries, these latter having been permitted to retain additional counsel and having been granted additional time for filing of requested findings of fact and briefs in support thereof, in respect of the companies within that sub-holding

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company system, including the top sub-holding company, North American Light & Power.

Now the staff requested, by its requested findings of fact and by the briefs filed therewith on May 23, that the Com-

9514 *Argument of Ralph C. Binford*

mission find, in brief, that The North American Company's system proper, that is to say, excluding North American Light & Power Company and its subsidiaries, consisted of several, or rather included several, integrated electric utility systems within the meaning of the Act; first, one operating under the sub-holding company, Washington Railway & Electric Company, and through the operating companies, Braddock Light & Power Company and Potomac Electric Power Company, in the City of Washington and in adjacent areas
9515 in Maryland and in Virginia, which we considered to constitute a single integrated system.

Secondly, the system of Cleveland Electric Illuminating Company, having its principal operations in the City of Cleveland, Ohio, but operating extensively throughout the Northern portion of that State.

Thirdly, the system operated by Wisconsin Electric Power Company, Wisconsin-Michigan Power Company, and Wisconsin Gas & Electric Company, in Wisconsin and in part of the Northern peninsula of Michigan.

Fourthly, the electric utility system operated by Union
9516 Electric Company of Missouri and the subsidiary electric

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utility companies of that company.

A similar division of systems is apparently recognized by counsel for the respondent.

Now the controversy, therefore, centers down to the propositions of what interests in other businesses might be retained by The North American Company in connection with the retention of any one of these electric utility systems as a principal system; and, to the determination of what combination of systems is possible among these several

systems, under the Paragraphs (A), (B) and (C) standards of the Act; and to a third proposition, that is, as to what action must be taken by Washington Railway & Electric Company and by Union Electric Company of Missouri, which are both registered holding companies, to limit their sub-holding company systems in accordance with the Act by the elimination of businesses qualifying under the "reasonably incidental, or economically necessary or appropriate" clauses; or not qualifying as separate systems.

Two of these electric utility systems are operated to some 9518
degree in conjunction with gas businesses, gas utility businesses, within the meaning of the Act. The question of the retention of those by a holding company retaining the electric utility system is also presented by the argument and requested findings of respondent.

No statement is made in the findings, nor in the brief, as to what system The North American Company wishes to retain as a principal system.

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Now it seems to us that the tests applied to "additional 9519
systems" necessarily presuppose a principal system to which such systems must be "additional", under which the tests given in the section upon which this proceeding is based may be applied.

We have been given no indication of the position of The North American Company in that respect, but the argument is made that Cleveland—by which I mean the electric utility system operating in that City and adjacent parts of Ohio; the system operating in Wisconsin and the Northern peninsula of Michigan; and the system of Union Electric Company of Missouri, may all be retained in combination. As to which

is to be considered the "principal" system, there is no statement, but the tests are applied as if that made no difference, or they are attempted to be applied.

It is also urged that each gas utility system presently operated in conjunction with the Wisconsin-Michigan system, and the Union Electric Company of Missouri system, may also be retained.

It is stated that The North American Company is proceeding to dispose of the Washington Railway & Electric
9521 Company, and therefore the question of the permissibility of retention there is not in issue.

It is further urged that some investments in excess of

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$40,000,000 in Detroit Edison, which is a statutory subsidiary of North American, and an investment of $60,000,000-odd in Pacific Gas & Electric Company, may be retained as interests in businesses or as investments under the provisions of the Act.

Commissioner Healy: Now the Detroit Edison has been held to be a subsidiary——

9522 Mr. Binford: (Interposing) The action of this Commission in refusing to declare it to be otherwise has been, in effect, upheld by the Circuit Court of Appeals in dismissing the petition for review, but it is a subsidiary by virtue of the statute until declared to be otherwise.

Commissioner Healy: Is there any doubt about it being an operating utility company?

Mr. Binford: No, sir; by an order of this Commission and by consent of all counsel, the recent A-2 registration statement of the Detroit Edison Company was put in evi-

dence in this case, after the close of the taking of testimony before the Trial Examiner——

Commissioner Healy: (Interposing) But the status of the Pacific Gas & Electric is in a little more uncertain condition, I believe?

Mr. Binford: That is in actual litigation. As to the Detroit Edison Company, until an appeal is taken, I believe it can be considered as settled.

Now most of the contentions, I believe, have been—or

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some of the contentions at any rate, if not all—anticipated in the briefs filed in this case. I don't see that oral argument could add any great amount to them.

However, it is the position of the staff that no one of these great electric utility systems, controlled by The North American Company, can be held, in combination with any other, under the (A) and (C) standards of the Act, eliminating for the moment the problems incident to the several constructions heretofore urged upon this Commission in respect to paragraph (B) of Section 11.

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This holding company system is unlike some others that may have come before the Commission, in that it has specialized, it would seem, in the control of great metropolitan systems—Washington, Cleveland, the metropolitan area of St. Louis, the area of Milwaukee, and a large system extending out and based upon the Milwaukee operations.

Each of these systems, we submit,—and there are exhaustive discussions, of course, in the record, and figures given not only in the record but in the proposed findings of fact,—is a gigantic enterprise in and of itself.

9526 *Argument of Ralph C. Binford*

The combination of any two of them would certainly be such as to violate the provisions of both the (A) and (C) standards.

The North American Company put in evidence, over objection and subject to exception, a comparison of its size with the size of certain other industries. Those figures are possibly a little misleading, even if they had any relevance.

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They could hardly have relevance, it seems to me, although
9527 I was overruled by the Trial Examiner, until it was shown that these businesses of similar size were not impeded, or were aided in the efficiency of their operations by their size.

However, based upon Exhibit 143, and testimony appearing in the record relative to the Pacific Gas & Electric Company at page 7040, I would like to call the attention of the Commission to the size of this aggregation of assets controlled by The North American Company at the present time, which, by their theory of this case, they do not intend substantially to reduce.

Now the companies consolidated on the basis of the
9528 method of consolidation used by the auditors of The North American Company, have assets of $957,064,000. By their method of consolidation they do not take into account the assets and plant and property of companies of which they do not have 50 per cent. or more of interest, regardless of the fact of control.

If we include Washington Railway & Electric Company and its subsidiary companies in that computation; Detroit Edison Company; and Pacific Gas & Electric Company, we have here a holding company which controls assets of a book

value of considerably over $2,000,000,000—in fact, of $2,239,956,000, by computations based upon Exhibits put in this record by respondent. This is an enormous company, such an enormous aggregation and concentration of economic power, the very thing which has the potentialities of evil

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which this Act was designed to eliminate and cure.

All The North American Company here apparently proposes to do—and yet feels that it has complied with the Act—is to dispose of Washington Railway & Electric Company, 9530
and to dispose of its interest in North American Light & Power Company and the subsidiaries of that company.

We respectfully submit that this is wholly farcical and ridiculous as an interpretation of the Act.

Now as to retention of interests in additional businesses, there are one or two points which are brought up by the brief which I think were not anticipated in our brief, and which I might mention, but which are brought out in a memorandum for oral argument which I filed with the Commission this afternoon.

First, let me take up a special situation, slightly different 9531
in its legal problems involved from the others of the system.

Washington Railway & Electric Company is a holding company incorporated by special Act of the Congress of the United States, and that charter, which consists of the special Act, has been amended from time to time. By the so-called Unification Agreement of 1933, the transit systems here in Washington were brought together, and other changes were made in the existing public utility system—using "public utility" in the general sense here.

9532 *Argument of Ralph C. Binford*

Washington Railway & Electric Company was specifically

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empowered to hold the stock of certain subsidiary companies. Among those was the Capital Transit Company, which operates the transportation facilities in the City of Washington.

It is now urged that the granting of this corporate power by special Act of Congress removes the question of the retention of these independent transportation properties by Washington Railway & Electric Company from the jurisdic-
9533 tion of this Commission under Section 11(b)(1), and the general statutory principle of construction is presented that a special Act or an Act relating expressly to a certain situation, governs over a general Act applying to the whole field, of which this particular case is a part.

Commissioner Healy: Do you think that is true when the general Act is passed several years after the special Act?

Mr. Binford: I not only think it is not true in that case, sir, but I think Acts of the regulatory type, such as the Public Utility Holding Company Act of 1935, are exceptions to the rule so expressed when the only conflict is with a charter
9534 purporting merely to grant corporate powers, which has been made in the form of a special Act.

I cite several cases in the memorandum on that subject, but one case in particular, although not a Federal case, I think brings out the point rather clearly.

The Citizens Bank & Trust Company, at Tampa, Florida, was incorporated by a special Act of the Legislature in 1895, and it was empowered to hold stock of other banks, expressly,

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by special Act of the Legislature.

Later, in 1917, a general regulatory statute was passed, regulating the conduct of banks, and among other things it provided that banks shouldn't own stock of other companies or of other banks.

However, in apparent reliance upon this special charter provision, and the principle enunciated by counsel for respondent in this case, the Citizens Bank & Trust Company proceeded to——

Chairman Eicher: (Interposing) I am sorry to interrupt, Mr. Binford, but we will take a five-minute recess in order 9536
that Commissioner Healy may receive a phone call.

(Whereupon, a short recess was taken.)

Chairman Eicher: Proceed, Mr. Binford.

Mr. Binford: As I was saying, this Bank, incorporated by special Act of the Legislature, and by that Act empowered to hold stock of other banks, even after the passage of a later regulatory statute governing the whole field of bank operations in the State which prohibited one bank from acquiring the stock of another, proceeded, in apparent reliance upon the provisions of the earlier special Act, to acquire 9537
stock of another bank.

The legality of that acquisition came before the Supreme Court of that State, and the Court held that in the field of the exercise of regulation, a regulatory power of a police

power nature, a prior special charter did not exempt the institution to which it was granted from the provisions of the later regulatory statute, and therefore, in the cited case the acquisition or purported acquisition, in violation of a later general statute, even though apparently authorized

9538 *Argument of Ralph C. Binford*

by the special charter, was wholly void and illegal.

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The Court said, in the second syllabus by the Court:

"No principle is better cited than that a special charter to any corporation to engage in a business of a public or quasi public nature can not be set up as exempting the institution from that regulation by the state in the exercise of its police power which the public necessity demands."

I submit that that is directly in point in respect of the
9539 argument here advanced that the special charter of Washington Railway & Electric Company, by Act of Congress, exempts it from the later regulatory statute embodied in section 11(b)(1) of the Public Utility Holding Company Act.

Upon the same Washington situation a further suggestion is made, apparently in the alternative, that if the first proposition isn't true, then, that we have a legislative determination by Congress that the retention of Capital Transit Company by the same holding company owning Potomac Electric Power Company and Braddock Light & Power Com-
9540 pany, which latter companies own the electric utility assets of the system, is the retention of a business "reasonably incidental, or economically necessary or appropriate" within the meaning of section 11(b)(1)——

Commissioner Healy: (Interposing) Who advances that proposal?

Mr. Binford: That is advanced as an alternative proposal by counsel for the respondent.

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I find it difficult to follow, that an earlier charter grant, preceding a general regulatory statute, can be upheld as a

legislative finding of the existence of certain conditions prescribed by the later statute, when the policy of the later statute had not yet been formulated or put into the form of law. I don't think that argument is tenable, and I don't believe any logical analysis of it can make it appear to be tenable.

Commissioner Healy: When was the La Follette Act, which prohibited the control of local utility companies by holding companies, passed in Congress; do you know about that? 9542

Mr. Binford: Yes, that is to say in respect to ownership of 20 per cent. or more of the local utilities?

Commissioner Healy: Yes.

Mr. Binford: Well, I believe that the so-called enabling statute of 1933, that other statute being on the books at that time, did operate to permit the present setup to exist, but when the 1935 Act, our Public Utility Holding Company Act, came along, there was no exception of that kind made, and the District of Columbia was expressly designated as a "state" in the Public Utility Holding Company Act, and the utilities therein made subject to the same regulations as 9543 those situated in the "states" as popularly known.

Now it has already been pointed out that in our brief there is only one employee in common between this traction system and the local electric utility system. The two are

divorced in corporate form; there is some intermingling of equipment, but the operations of each are carried on by a different personnel, and they are of a different type.

Now there has been no showing that, for instance, the bonds of the system, guaranteed by Washington Railway &

Electric, of the transit system, have any particularly higher credit rating or are better than the bonds not so guaranteed. There is no showing, in other words, that any necessity requires the preservation of common ownership in these two companies, but that need not be taken up further, it seems to me, in view of the treatment of it in the briefs.

Now the argument on Paragraphs (A) and (C), relative to the retention of these several gigantic systems together, electric utility systems, is, I think, answered by looking at
9545 the maps of the systems in this case which are exhibits, the numerous maps, and the financial figures given with respect to each of them, their size and the extent of their operations is almost enough to raise doubt as to whether each in and of itself, if a definite line could be drawn somewhere, would not be so large and of such characteristics as to violate the (A) and (C) standards.

Now as to the retention of the interests of The North American Company in Pacific Gas & Electric Company, and in the Detroit Edison Company, what this Commission said in the case of United Gas Improvement Company, File No.
9546 59-6, Holding Company Act Release No. 2692, relative to

interests in other businesses, and particularly in statutory subsidiaries, and in utilities which are not statutory subsidiaries, seems to apply in the present case.

The only argument advanced apparently, so far, for the retention of these two investments, if they can be regarded as investments, and if were held not to be a subsidiary eventually by the highest court, is that they give diversi-

fication of income and of holdings to The North American Company security holders.

Now that is an argument, it seems to me, which was addressed at length to Congress in the enactment of the Public Utility Holding Company Act, and whatever advantages may lie in diversification were weighed at that time, and the evils potential to such a holding company system as the present one, whether they become active or are merely potential, as I have said, were evidently found by Congress to be greater than any advantages of great diversification, and were re- 9548
jected by the enactment of section 11(b)(1).

So that argument, it seems to me, has been settled already.

There is no other argument advanced as to why these interests in other businesses—if they could be considered as such, which we do not admit—are "reasonably incidental or economically necessary or appropriate".

Now the transportation properties in Wisconsin, part of

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which are operated directly by the electric utility companies there; and one of which, the largest of which, is operated as a separate company, wholly owned however in respect 9549
of securities, by Wisconsin Electric Power Company—that transportation company was set up in 1938 to segregate the transportation properties.

It was a first step to the eventual divorcement of the transportation properties from the electric utility properties of that group of companies, operating the Wisconsin-Michigan system.

It is suggested for the first time in the brief filed in support of the requested findings of the respondent, that that

9550 *Argument of Ralph C. Binford*

may have been a recognition by this Commission, or a finding, that the retention of those fraction properties or transportation properties—they have become largely gasoline propelled rather than electrically propelled—constituted the retention of a "business reasonably incidental" and so on, that is to say, complying with the standards of section 11(b)(1).

A glance at the record in that case, however, and the published findings and opinion, will show that the principal thing there was not the acquisition of securities of the new
9551 company, the transportation company, which was formed, but the segregation, and it certainly can not be argued that insistence upon such segregation, and as a first step therein the acquisition of the securities of the new company by the former owners of the property, namely Wisconsin Electric

Power Company, constituted any definitive finding by this Commission that that condition could go on forever.

A thing may tend toward the development of an integrated electric utility system obviously, which doesn't accomplish it in the first instance, but merely is a step in that
9552 direction and to bring about a situation where the actual divorcement of those properties, which should be divorced, can be made; and I think that is the only way in which the opinion of this Commission could be construed in that case, if it has any bearing on this case at all.

Now as to the gas systems. This Commission has already heard argument and reargument on the question of whether or not a gas utility system and an electric utility system, can constitute a single integrated system in view of the two definitions given in the Act, and has held that they

can not do so, the cases on which are cited in the briefs filed herein.

As to the retention of one business with the other in the same locality, the tests of "additional systems" may be applied if a holding company seeks to retain both.

There is a great deal of evidence in this record, presumably introduced by the respondent, to show that substantial economies are effected both in the St. Louis area and in the Wisconsin-Michigan area, by the combination of the operations of the gas utility companies with the electric utility 9554
operations in the use of common personnel, common office

space, and a number of other physical respects.

However, this evidence is susceptible of other interpretations, it seems to me. It does not conclusively prove, nor substantially prove, that one business is not carrying the other. There is no detail of the basis of apportionment sufficient for this Commission to say that substantial economies are effected for the consumers or investors with respect to the gas businesses, or whether or not an extra burden is not being forced upon them, or vice versa, the latter being the 9555
more likely of the two situations.

The question of whether such retention is desirable from the public viewpoint, or whether it is detrimental to the public interest, is still open. Both companies are, by their nature, usually monopolies in a given area. It seems to me highly questionable, in the absence of unusual circumstances which might exist in a particular case, whether or not the two competing—that is to some degree competing—utilities should be held under common control and common ownership rather than be operated as distinct properties, each by

9556 *Argument of S. Pearce Browning, Jr. and Charles S. Hamilton, Jr.*

its energies and efficiencies of operation tending to stimulate the other to greater public service.

There is some evidence in this record tending to show that there is much greater activity, in promotion work presumably, in service by the gas utility people in the districts in which they do not also operate the electric utility businesses,

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and even in the absence of evidence of much weight on that
9557 point, it seems to me that the Commission, in view of situations recognized in numerous reports of state public utility commissions, and well known, can see that there are certain inherent disadvantages in such joint ownership which may be detrimental to the public interest; and I submit that that proposition, known officially and judicially to this Commission, is not overcome by the particular circumstances of joint utilization, to some extent, of personnel and of equipment in the present case.

I think that is all I have at the moment, although I would like to say something in reply after respondent's counsel
9558 has spoken.

Chairman Eicher: Mr. Browning!

Argument of S. PEARCE BROWNING, JR., and CHAS S. HAMILTON, on behalf of the Respondent.

Mr. Browning: If the Commission please, at the outset I should like to clarify certain matters which may serve to simplify the argument.

In the first place, I should like to make it clear that we are not representing here today North American Light &

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Power Company or its subsidiaries. We are representing all of the other subsidiaries of The North American Company.

Commissioner Healy: Are you representing the interests of North American in North American Light & Power? You own 85 per cent. of the common stock of that company,

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do you not?

Mr. Browning: Why, as far as we are concerned, Judge, North American Light & Power Company is going to be dissolved and its assets are going to be disposed of in liquidation. From a realistic standpoint, and looking forward, we think it is a waste of time to talk about the control of those companies. We haven't asked for any findings with regard to retention by North American of its interest in those companies.

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Commissioner Healy: Are the assets of The North American Light & Power going to be distributed in accordance with the provisions of this Act and the applicable decisions of the Supreme Court of the United States?

Mr. Browning: Judge, I am not particularly familiar with the proceedings except that I know that a meeting of the stockholders of North American Light & Power Company has been called to consider and act upon its dissolution.

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Commissioner Healy: Well, since The North American Company has such overwhelming voting control of North American Light & Power, and since the statute and the applicable decisions have laid down certain rules in respect to the distribution of assets, it may still be a very live topic in this case, in fact I am inclined to think it is.

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9562 Maybe this isn't the appropriate time to discuss it, but for my part I should be very much loath to go along with the suggestion that the North American Light & Power problem goes out of this case completely merely because it is planned by The North American Company to dissolve North American Light & Power.

Now, North American not only owns 85 per cent., and therefore the voting control of North American Light &
9563 Power, but it also has a large debt claim and a large position in the preferred stock of North American Light & Power.

Then there is a large public interest in the preferred stock, and in a minority of the common stock.

I have been very much concerned, in my thinking about this matter, as to just where those debt claims and preferred stock claims might stand in liquidation as against the publicly held preferred and the publicly held common stock, in the light of the Supreme Court's decisions in the Deep Rock Case and the Consolidated Rock Case, and possibly some of the obiter in the Pepper versus Linton Case.

9564 As I have said before, this may not be the appropriate time to discuss those details, but since there is a proceeding here which involves the North American Light & Power Company and its subsidiaries, and the interests of The North American Company in North American Light & Power, I have some reservations of the propriety, and perhaps the legality, of going off into the State courts for a liquidation of North American Light & Power while there is a case

pending before this Commission under our statutory authorities, which hasn't been decided, which, according to you,

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ought not to be decided for some time; but the question in my mind is whether, pending that decision, a liquidation under a State statute is entirely an appropriate remedy. I don't see at all, at the moment at least, that the proposal of liquidation concludes the North American Light & Power Company and takes it out of this present proceeding, where North American Light & Power is a respondent.

Mr. Browning: Perhaps I can clarify that a bit.

I did not mean to say that you wouldn't have before you 9566
argument concerning North American Light & Power Company and its problems. I was trying to clarify this argument by saying that since, so far as North American was concerned, retention of its interest was no longer an issue, we saw no useful purpose to be served in discussing it, and I am not prepared to discuss the other questions which you mentioned.

Commissioner Healy: Well, of course, how North American Light & Power might be disposed of in the present proceeding in which it is a respondent, hasn't been decided, and
I am not entirely clear that the dissolution proceedings in 9567
the State court are an appropriate thing in this stage of the case. I just want to put that caveat in there so that our silence might not be taken as acquiescence.

Mr. Browning: In the next place, we filed with the Commission today a reply brief which brief also serves as a brief

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on various legal questions involved.

In that brief we ask leave at various points to incorporate by reference the briefs of respondents' counsel in other

9568 *Argument of S. Pearce Browning, Jr., and Charles S. Hamilton, Jr.*

11(b)(1) proceedings, the U.G.I., the Engineers Public Service, and the Commonwealth and Southern.

The point was that we wanted to have it understood that we were making the contentions, and at the same time we didn't want to burden the Commission with reading the same arguments, and I would like to ask the Commission if we were correct in assuming that we would have leave to incorporate those by refernce?

9569 Chairman Eicher: Does counsel for the Commission have any objection?

Mr. Binford: If that is done, I think, of course, in fairness, the briefs of counsel for the Commission in the same proceedings should also be open for consideration by the Commission.

Otherwise, we have no objection.

Mr. Browning: That is entirely satisfactory.

Chairman Eicher: That will be the understanding, then.

Mr. Browning: And by the same reasoning, I have no
9570 intention today of rearguing the various detailed questions of statutory construction which you have heard in those other proceedings.

We understand that the Commission refuses to consider the constitutionality of the statute, so that there is no purpose to be served in discussing constitutional issues. I would like to have that clear on the record also, if I may.

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Commissioner Healy: Well, the Commission's decision, as I have understood it on that point, wasn't as much a matter of refusal, as a conclusion that we were not at liberty to

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do it. That is the conclusion of the Commission as I understand its decisions.

Mr. Browning: What I meant, Judge, was that you would feel that there was no useful purpose in my arguing the constitutionality of section 11(b)(1).

Commissioner Healy: I think that that is consistent with the position that the Commission has taken.

Mr. Browning: Now, that leaves for consideration only the issues of statutory construction, and it seems to us that those are principally two: (1) the tests for other businesses and (2) the application of the (A), (B) and (C) standards in the present case. 9572

We also want to discuss quite briefly the problem of electric and gas facilities, without repeating all of the arguments which you have heard before; and, finally, the point concerning the election of a principal system.

As a matter of presentation, we would prefer, if the Commission please, to take up first the tests for other businesses, and consider the other matters later; and if the Commission will so permit, I should like to have my associate, Mr. Hamilton, discuss this test of other businesses as present in this case. 9573

Chairman Eicher: That will be quite agreeable.

Mr. Hamilton: For the sake of convenience, I would like to take these up, if I may, first of all with a brief discussion

of what I understand your decision in the U.G.I. Case to mean as applied to "other business"; and secondly, specifically taking that test up with respect to businesses conducted

9574 directly by the four main groups in The North American System; and, finally, those owned or controlled directly by North American.

In referring to these groups I use the same terminology that has been used heretofore. The Washington group is the Washington Railway & Electric Company and its subsidiaries; the Cleveland group, the Cleveland Electric, and so on.

9575 Now, in the Commission's decision in the U.G.I. Case, Holding Company Act Release 2692, there are set up a number of clearly alternative tests which may be met in order to comply with the statutes on "incidental businesses".

The Commission in that case specifically said that the "Commission must permit the retention of other businesses, including investment interests in utilities not subsidiaries, which are found to be (one) reasonably incidental or (two) economically necessary or (three) appropriate to the operations of an integrated public utility system"——

9576 Commissioner Healy: (Interposing) What case was that?

Mr. Hamilton: The U.G.I. Case, Holding Company Act Release 2692.

The Commission went on to say that "as to both investments in non-utilities and interests in non-utilities sufficient to create the statutory parent-subsidiary relationship, these

standards may be met if the retention of the investments or other interests is found to be (one) necessary or (two) appropriate in the public interest or for the protection of

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investors or (and I am inserting words, interpolating for the protection of) consumers and (in each case) not detrimental to the proper functioning of such system or systems."

If you will notice, as to the second half of this statement by the Commission, there are set up here clearly six alternatives. It isn't necessary that five or all six be met, but that one out of the six be satisfied.

Now, what does the staff say on this point?

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Counsel for the Commission in his brief refers in passing to the entire sentence to which I have just referred, and then says that "reasonably incidental" carries with it the connotation of a functional relationship. Then he takes up "economically necessary or appropriate", and he says that these words appearing in close juxtaposition must be given their obvious meaning of functional relationship.

In other words, as he analyzes this test, there is only one test provided, and that is a test of "functional relationship", disregarding clearly the fact that there are three alternatives set up. He goes on to state or rather to cite a case, which is correct, to the effect that words used in a statute of Congress are to be given their known and ordinary signification.

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Now, what are the meanings of these words in their known and ordinary signification?

The word "incidental", as defined in the accepted dictionaries, means: casual, subordinate, occurring in connection with something else.

The word "appropriate", similarly is defined as meaning suitable, fit, or proper.

9580 *Argument of S. Pearce Browning, Jr., and Charles S. Hamilton, Jr.*

These definitions, in common and ordinary use, considerably broaden the test beyond one merely of functional relationship. It may well be that functional relationship has some bearing, but certain there are other criteria which similarly have bearing.

For example, the question of a historical connection over a period of years on the question of whether a business is incidental; whether one might expect normally to find the
9581 particular type of business represented in a public utility enterprise.

I call the Commission's attention to a decision of the Circuit Court of Appeals in the Ninth District, 111 Fed. (2d) 1014, in which the Court was called upon to construe the phrase appearing in section 203(a) of the Federal Power Act, "consistent with the public interest".

The Circuit Court of Appeals for the Ninth Circuit said that "the language employed ought to be construed to mean no more than it says. It is enough if the applicants show that the proposed merger is compatible with the public in-
9582 terest." In other words, the Court is interpreting the phrase

"consistent with the public interest" to mean compatible with the public interest. The Court goes on to say:

"The Commission * * * may not impose a more burdensome requirement in the way of proof than that prescribed by law * * * suffice it to say that the statute does not require a showing that positive benefit to the public will result * * *"

I think that case should be borne in mind in any application of the term "appropriate in the public interest" appearing in this section.

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Applying that case to the present instance, it is not necessary that there be shown from the record evidence to establish that positive public benefit will result by reason of the retention of the particular business in the enterprise. Rather, on the other hand, that the retention of the business in the enterprise shall merely be compatible or consistent with the public interest. —30—

Now turning to the specific incidental businesses which are represented in these four groups, we have, in the case of 9584
three groups, a steam heating business, which counsel concedes meets the statutory tests, and which therefore I shall not discuss.

Also, a land business in the case of the Union group, which, in addition, he concedes to meet the tests, and which, similarly, I shall not discuss.

Transportation businesses in certain of the groups, and electric railroad business in the Union group; a coal business in the Union group; and an electric furnace manufacturing company in the Wisconsin group.

Turning specifically to the transportation businesses— 9585
and here I don't propose to take up each one in detail—the facts with respect to the operations of each transportation business are set forth in the proposed findings and in our main brief.

But taking them up simply for the purposes of illustrating the point in the application of the statute—the Capital Transit here in the District has, for 48 years, directly or indirectly, been operated in conjunction with Washington Railway & Electric Company. Washington Railway was

organized in 1892, and at that time the railroad business predominated, and the electric business was more or less incidental.

That has been, I think, the history of a number of the present electric utilities in this country. Originally they

were transportation companies.

This business, as now constituted, is a revenue-producing
9587 investment for Washington Railway & Electric Company. The joint operation is indicated by the fact and to the extent that joint use of equipment is made, and also by the fact that Capital Transit is a very large purchaser of power from the Potomac Electric.

Now as to whether this business is incidental, the value of the investment as per the books of the Washington Railway & Electric Company is approximately 15 per cent. of the total consolidated assets, based on carrying value. The income from the investment is approximately 2 per cent. of the consolidated income. However, relating the carrying
9588 value of that investment to actual present market value, the investment is worth approximately, or represents approximately, 2 or 3 per cent. of Washington's consolidated assets.

Now as to whether or not the business is appropriate, it seems me that the Commission should clearly bear in mind the fact that there is no requirement, or should be no requirement, that an affirmative public benefit will be shown to ensue from retention of the ownership. Rather, as I have pointed out before, the question is: Is it merely compatible in the public interest that this business be retained?

Argument of S. Pearce Browning, Jr., and Charles S. Hamilton, Jr.

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Now counsel has mentioned a point made in the brief as to the operation of the joint resolution, so-called, of 1933,

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on the ownership by Washington Railway of its stock interest. Whatever the case under the Florida courts, the Supreme Court has clearly laid down the rule of statutory construction, that a later general statute which is not, on its face, irreconcilable with a prior specific statute, or is not on its face wholly inconsistent or incompatible with it, does not 9590
constitute a repealer of the prior statute; and I refer in that instance to certain cases in the Supreme Court, three in number which are cited in our main brief.

Without attempting to go into detail on his analysis of the case on which he appears to place the most reliance, because his brief has just been furnished to us—as ours to him—at the opening of this argument, as I understand his analysis, the Florida case merely holds that a later statute which specifically repeals a charter provision created by law previously is a proper exercise of the State's police power.

Now here the Public Utility Holding Company Act of 9591
1935 does not expressly repeal prior enactments. It is not, on its fact, wholly inconsistent with the prior statute of 1933 authorizing retention of the stock interest.

I ask the Commission to refer to those cases, and to read the Supreme Court's statement on statutory construction.

Turning now to another transportation business, the Milwaukee Electric Railway & Transport Company,—to which I shall refer, in shorthand expression, as the Transport Company—this business in Milwaukee has been conducted for

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51 years, since 1890, either directly or indirectly in conjunction or control or with the electric utility operations.

Here again, originally the properties in Milwaukee, the utility properties, were street railway properties. Gradually, with the growth of the electric business, a shift in economic circumstances, the incidence of the importance of the operations has changed, and here again predominantly it is now an electric utility company, and the trans-
9593 port operations are relatively minor.

Now as to why the segregation occurred in 1938, the fact is that market-wise a public utility bond is a more saleable vehicle than a bond which is a lien on property both of the electric property and of transportation operations. That was the reason for the segregation in 1938, to permit and to facilitate a major refinancing which occurred at that time.

Now the record is replete with evidence showing the essentially joint nature of this operation, and here again I refer you to our findings and to our brief, which take
9594 these facts up in detail, and which establish, in my judgment beyond any question, that the business is not only incidental, by reason of the combined nature of the enterprise, but that it is also entirely appropriate because of manifest economies which result from the combined operations.

In addition, the transport company is the purchaser of

approximately 100,000,000 kilowatt hours a year, at a rather low rate of 7.8 mills.

Certainly it seems to me that retention of this interest is appropriate in the public interest, as it has been for 51

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years, and in the interest of investors and consumers. Certainly that property, if sold on the auction block today, is going to represent to Wisconsin Electric a very substantial loss, and therefore, in that respect, the interest of investors in Wisconsin Electric Power bonds, preferred stock and common stock, is involved.

Taking up again, for purposes of illustration, the business conducted by the Union Colliery Company, in conjunction with the St. Louis group, this business again has been 9596
part of the Union group since 1917. In other words, it has been a parallel operation for a period of 24 years, and I might say in passing that I note, in counsel's reply brief, that he indicates that neither in this case, Union Colliery, nor in the case of St. Louis & Belleville Electric Railway Company, have we made any contentions. I refer him specifically to pages 34 and 36 of our brief, where we most surely do make some contentions.

Commissioner Healy: May I interrupt just a moment on this Wisconsin street railway situation? Is that being operated at a profit or at a loss? 9597

Mr. Hamilton: The net income before bond interest in 1940 was approximately $630,000. That is after depreciation.

After bond interest of $400,000, the net income transferred to surplus would have been about $230,000.

I might say that that is, as you know—and I imagine this is generally true of other transportation operations—not a tremendously profitable enterprise. It is a case of working out, over a long period of years, an investment which, by force of economic circumstances, is not as attractive now as

it was back in 1910. That is peculiar, I think, to most of these transportation operations.

As to Union Colliery Company, this is a coal mining enterprise located some 85 miles from St. Louis, 80 per cent. of whose production is sold to the Union group for consumption in its steam generating plants. Almost the entire requirements of the Union group, of coal, are purchased from Union Colliery Company. It is important to Union for a

9599 number of reasons: One, the coal is entirely satisfactory for Union's steam generating facilities; two, Union, as you know, has a very substantial amount of hydro generation. That results in a circumstance where, at times during the year, due to high water or to the impoundage of water at the Osage Dam, it is possible to cut down on the steam generation. Therefore, an available source of coal from an affiliated company, where it is possible to get delivery when needed, is an important part of the Union enterprise. It contributes to the efficiency of the operation of the Union group.

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Now as to the size of the Union Colliery Company, on plant account and on revenues, it is approximately 1½ per cent. of the total in the Union Group.

Commissioner Healy: Does the Colliery Company sell coal to anybody else?

Mr. Hamilton: Yes, it sells 20 per cent. of its output, as of June 30, 1940, the 12 months' period, to outside sources.

Now I might point out in this connection that the Commission in 1937, at the same time that it approved the reorganization of the Union Company, the consolidation of the

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five East Side subsidiaries, specifically approved the transfer of this Colliery stock from Union of Missouri direct to Union of Illinois, and in that connection the Commission's findings and opinion stated:

"In the present case the Colliery is already owned within the system and its transfer from an intermediate holding company to the company which is to become the owner of the principal generating plants which it serves, will tend towards the economic and efficient development of an inte- 9602
grated public utility system".

I think the Commission has already passed on this phase of the case in 1937.

Commissioner Healy: Can you conceive of our making a finding under 10(c)(2) of that character where the real basis for saying it was to get the property into a position where it could be readily disposed of if it were found not

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to be retainable under 11(b)(1)?

Mr. Hamilton: Judge, I don't want to push the point too much, because it may be embarrassing, but it seems to me 9603
that there were necessarily involved in a consideration of any transfer of ownership of securities within the system, or any acquisition of property, back in 1937 and 1938, necessarily in the Commission's mind there must have been a consideration of Section 11(b)(1). Now this is the language of your opinion.

Commissioner Healy: Well, of course, the various companies are in here many times with cases where we are asked to approve transfers under 10(c)(2), where it seems pretty plain that when this thing is all sugared off, some of these

9604 *Argument of S. Pearce Browning, Jr., and Charles S. Hamilton, Jr.*

companies cannot be retained. But it quite often happens that it works in the direction of simplification, and also gets the property involved to a place where it can be more readily handled under 11(b)(1). I am not sure that if we make too strict an application of the 10(c)(2) standards, that we may not find ourselves where we cannot approve a good many transfers of that kind which have immediate benefits or immediate tendencies in the 11(b)(1) direction, but which
9605 in the long run can't be held under 11(b)(1).

Mr. Hamilton: I think you are quite right in that case, for other reasons, too. I think, on the merits, the business is entirely proper under the statutory tests, irrespective of

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the language you may have used in your opinion.

Commissioner Healy: That may be so, but I just raised the question as to whether the language in the opinion necessarily concludes that point.

Chairman Eicher: That approval occurred in 1937?

Mr. Hamilton: Right.

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Chairman Eicher: That was prior to January 1, 1938, when, for the first time, the Commission took affirmative action looking towards the enforcement of Section 11?

Mr. Hamilton: That is true.

Now I have used these specific instances not for the purpose of exhausting the argument, but simply to point out the application of what seemed to me to be clear alternatives under this section of Section 11(b)(1), to specific incidental businesses in the system.

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Argument of S. Pearce Browning, Jr., and Charles S. Hamilton, Jr.

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Now as to the facts involving the other businesses, as to our contentions, I don't think it is necessary to repeat what is already in the main brief or the findings.

Now turning for the moment to the businesses controlled directly by North American, as distinguished from those which are controlled within the subsidiary groups, these investments and businesses are made up of an office building corporation in New York called Sixty Broadway Building Corporation; West Kentucky Coal Company, and its subsidiaries, a producer and distributor of coal in Kentucky; North American Utilities Securities, a relatively inactive, almost completely inactive I might say, investment company; and the stock interest in Detroit Edison and Pacific Gas & Electric.

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In order to meet to some extent these assertions of tremendous size with which counsel has characterized these investments, let me give you a few facts.

The investment in Detroit Edison is not $40,000,000, but actually $29,800,000, which is before deduction of the dividends recently declared, subject to your approval, payable on North American common stock.

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Now the Act itself specifically contemplates the existence of a holding company. Otherwise, the provisions relating to control of an integrated public utility system, or of other businesses, would have no effect. Detroit Edison and Pacific Gas & Electric we maintain represent investments.

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I have in mind the decision of the Circuit Court of Appeals denying a petition for review of this Commission's order. However, there has been no final determination of

9610 *Argument of S. Pearce Browning, Jr., and Charles S. Hamilton, Jr.*

that case, in the event an appeal is taken, and whether or not one is to be taken I do not know; and in addition to that fact, and as a further argument to support our contention that this is in fact an investment, I point again to the action of North American in declaring this dividend payable in Detroit Edison stock, which would have the effect of reducing North American's holdings from 19.21 per cent. of voting stock to 16.78 per cent.

9611 Now here again I don't want to exhaust your patience with a detailed statement of the facts, or an attempt to apply, in each case, the statute to the specific business or investment. I want to illustrate by taking one or two.

First, as applied to the Sixty Broadway Building Corporation—this company owns as its sole asset a 25-story office building in New York City, of which two floors, and part of three others, are devoted directly to North American's activities. The total assets of this enterprise are approximately 1 per cent. of North American's corporate assets.

The record shows, through testimony, that in the early
9612 30's and in the late 20's this investment was of extreme importance because at that time rents were high in the New York financial district. The return on the investment at that time was high, and the saving in terms of rents paid was substantial to North American.

Even in 1940 this investment produced income of 2½ per cent. on its carrying value to North American.

The testimony in the record shows clearly that this business can not be sold at this time, the office building, without recognizing a substantial loss.

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If we assume, as I think we must, that continuation of a holding company is proper under the Act, and is clearly so from the language of the statute, certainly any holding company should be permitted office space for its operations.

Commissioner Healy: How much of the building does The North American Company itself occupy?

Mr. Hamilton: Two floors, and part of three others, out of a total of 25. You won't find many small buildings down there though, Judge. 9614

Commissioner Healy: I suspect not.

Mr. Hamilton: Now I think, just in passing, that the amount of this investment is, on its face, so small, and its purpose in providing office space essential, and that is its main purpose——

Commissioner Healy: (Interposing) What is the investment in the building?

Mr. Hamilton: The stock is carried at $350,000 on North American's books. There is an open account which, as I remember, is of the order of $1,600,000.

Commissioner Healy: Is that the cost of the investment to 9615

North American?

Mr. Hamilton: That is the cost to North American.

As to the Detroit Edison—and I pick this as an illustration of the two utility investments—as the Commission knows, this investment dates back in its origin to 1903. It represents today less than 10 per cent. of North American's corporate assets, and approximately 7½ per cent. of its corporate gross income.

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As pointed out in the brief, this investment, together with Pacific Gas, provides diversity and stability of income.

The record shows that in the five-year period 1936 to 1940, inclusive, the dividends from these two sources have more than covered North American debenture interest and preferred stock dividends in the three years, namely 1936 through 1938, and it covered 85 per cent. of the combined requirements, the amount of such requirements being larger

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by reason of the dissolution of North American Edison in 1938.

In addition, the records show that the Detroit Edison has been a valuable source of information in the inter-company committees, and that this information has been exchanged with other companies, Cleveland, Potomac, St. Louis and Wisconsin, for many years.

Now I would like to call your attention, in closing, to the Commission's decision in the American Water Works case in 1937, not as applied to the question of joint ownership of gas and electricity, however.

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In that case, which is Holding Company Act Release 949, the Commission expressly authorized the retention by American Water Works of subsidiaries conducting water businesses, constituting 30 per cent. of the total business of the holding company system, and in its opinion stressed the fact that these water businesses contributed a stable source of revenue to the holding company.

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Also, in passing on a coal business and transportation businesses, the Commission stated, as to the coal business,

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that it would "seem to bear an intimate relation to the operations of the gas and electric utility companies"; and as to the electric railway, bus transportation and bridge businesses, the Commission stated that it "realizes that these are in the nature of an inheritance from an earlier age when electric transportation was of more importance than the business of electrical distribution. In view of the facts and of the minor importance of the applicant's interests in these businesses, relative to its other operations, and in consideration of the difficulty which the applicant would face in satisfactorily disposing of its interests in these transportation businesses, the Commission finds that their retention is necessary and appropriate in the public interest and is not presently detrimental to the proper functioning of the applicant's integrated public utility system."

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We submit that that decision was well reasoned, that it was realistic, that it took into the account the problems which face the holding company under the Act, and we submit that it should be followed in this case.

Mr. Browning: If the Commission please, we should like to turn now briefly to the question of whether gas and electric properties may, in combination, constitute a single integrated system.

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The only gas properties in the main group of North American subsidiaries are in St. Louis and Wisconsin, and in the aggregate they amount to about 4 per cent. of the three-system total.

Our fundamental contention, as to the rule, which is a sound proper rule, is that as a matter of law gas and electric

9622 *Argument of S. Pearce Browning, Jr., and Charles S. Hamilton, Jr.*

facilities may constitute a single integrated system but that whether they do in fact should be resolved upon the facts, and that is the point that I want to make today.

I thought that the question was thoroughly argued in the U.G.I. Case, but my only trouble was that it was being argued in a vacuum of facts. We want you to look at the facts in the North American Case as a background for a reconsideration of that ruling.

9623 In that connection, we hope that you are going to read our briefs, because we are not trying to cover today all of the items covered in our briefs. They are not long, we tried to hold them so that you could read them.

Counsel in his oral argument implied that there was no evidence on substantial economies. There is not only evidence but it is highly specific. We gave figures on these economies and those figures have never been challenged. And there isn't a scintilla of evidence in the record against that testimony, and we ask again that the Commission consider the facts in this regard.

9624 Turning now to the (A), (B) and (C) standards of section 11(b)(1), we wish to discuss those as applied to the

St. Louis, Wisconsin and Cleveland groups, that is, whether, in combination, those groups meet the statutory standards.

Each one of the groups has been conceded to be a single integrated system in and of itself, as must have been the case.

Taking up the (A) standard, the test prescribed by the statute is that "each of such additional systems cannot be operated as an independent system without the loss of sub-

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stantial economies which can be secured by the retention of control by such holding company of such system".

Now the staff in its brief makes the contention that each of the three systems is large enough to stand on its own feet. In fact, that is the contention that the staff makes. That is not the statutory test. The statutory test is whether the substantial economies are derived by the subsidiaries. We discuss this matter in our reply brief, and particularly what seems to us to be the only question of construction involved, and 9626
that is the word "substantial".

As far as I know, this particular issue of statutory construction has not been previously argued before the Commission. We have cited to you various cases dealing with the meaning of the word "substantial", and I just want to quote one judicial interpretation:

"'Substantial' as an adjective means something worthwhile as distinguished from something without value, or merely nominal."

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I would also like to refer to this Commission's own de- 9627
cision in the matter of Public Service Company of Oklahoma, where you were dealing with the correct interpretation of the word "material" under another section of the Act, and in which you said:

"We think that the standard * * * connotes income the loss of which would be something more than de minimis to the company concerned."

In other words, we submit that, broadly speaking, the term "substantial" means something worth having, as distinguished from something nominal or de minimis.

9628 *Argument of S. Pearce Browning, Jr., and Charles S. Hamilton, Jr.*

Now, our evidence in this proceeding goes much further. We have offered evidence in this proceeding, having placed upon the stand the chief executive of each of the subsidiary companies, and that evidence is conclusive, that these subsidiaries do derive substantial benefits from their retention within the North American system.

Broadly speaking, these benefits may be divided into two classes: (1) the benefits which they derive directly from
9629 their contracts with The North American Company and (2) the benefits which they derive from their contracts with the sister operating companies.

Now, as to North American's direct benefits, as you know, the general theory of North American management for many years, since at least prior to 1920, has been a highly localized management, and that meant that North American's function was restricted to that of advice and consultation.

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The testimony is unanimous that that advice and consultation has been of great value to the subsidiary companies.
9630 Advice and helpful advice on one important matter may be worth advice on a thousand minor points.

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The advice is made valuable, and in fact the essential elements in it are: first, the background of knowledge of the holding company executives, of the particular operating subsidiary; secondly, the holding company executives' experience with a similar problem in other companies; and finally, and most vital of all, the factor of financial interest.

As Dr. McClellan remarked, when he was on the stand, he could get a lot of advice from anybody in the world on

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anything, but the advice that was worth having was the advice from somebody who had the same financial stake that he had.

Let me give an example of one important piece of advice. The Wisconsin executive testified that when Wisconsin was issuing bonds in 1930, Edwin Gruhl, who was then president of The North American Company, persuaded Wisconsin that they should issue more bonds than they then had in mind, should secure more money. That advice paid the Wisconsin hundreds of thousands of dollars, and permitted them to build the great Port Washington plant, because they could never have secured the funds in the depression.

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Commissioner Healy: Were they publicly held securities in those companies?

Mr. Browning: Yes, sir.

Commissioner Healy: Why didn't The North American Company make an equity contribution?

Mr. Browning: North American has made equity contributions totaling many millions of dollars.

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Commissioner Healy: What was the coupon on those bonds?

Mr. Hamilton: Five per cent.

Commissioner Healy: What was the rate of return being made on the investment and allowed by the Wisconsin Commission?

Mr. Hamilton: There was no dividend paid from 1932 until 1939, I believe it was, on the common stock of Wisconsin Electric Power Company, which was then Milwaukee Electric Railway & Light.

9634 *Argument of S. Pearce Browning, Jr., and Charles S. Hamilton, Jr.*

Commissioner Healy: Did the common stock have earnings during that period?

Mr. Hamilton: My recollection is that it did for the entire period.

Mr. Browning: While that is being looked up may I proceed?

Another example which is in the evidence is that the Cleveland company's decision to follow the growth of the
9635 Cleveland radius, in other words to expand its operations beyond the then narrow corporate limits of the City of Cleveland, was a direct result of North American's encouragement. That expansion has brought benefits to the public which I don't know that we could estimate in figures. The testimony in this record shows that as the Cleveland Company expanded its operations, rates were cut overnight more than half for those consumers. They got service they never dreamed of before.

No single action that I could think of has meant more to

9636 the people of that area than that expansion of the Cleveland Company's service area. My recollection is that those rates dropped from as high as 15 cents a kilowatt hour to five cents; and 12-hour service became 24-hour service.

Now the particular field in which The North American has aided its subsidiaries, one field in which it has rendered great assistance, has been in financing.

In our briefs we have pointed out the essential difference between a utility business and other businesses, in its constant need for new money. The utility business is distinct in that regard, as you know. Not only do they need money

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constantly, but they need a great deal of it, and financing problems are extremely intricate.

The witnesses testified in detail as to this, and also that despite the importance of the problem, as a practical matter, an operating utility executive does not have time or the opportunity to be a financing expert, he can not be both. None of these North American subsidiaries have found it necessary to maintain a financing staff. Furthermore, their testimony shows that if they did, the staff would not have the practice—they can't.

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Take a company like Cleveland, a great company, Cleveland does not finance every year, but only every several years. If Cleveland had a financing staff, that staff wouldn't get the practice that the North American staff does.

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The subsidiaries have not only saved the operating expenses to which they would have been subjected had they attempted to maintain a staff of anything like the same quality and caliber, but they have obtained much better results.

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In fact, witnesses attributed the unusual operating results of The North American subsidiaries to be in substantial part due to their freedom to devote their attention to operating problems, as distinct from financing problems.

Now let us turn to the sister company contacts. The testimony shows that beginning in 1921, under North American's sponsorship, there were set up these committees of engineers from the operating companies. There were two such committees, one dealing with all phases of power generation, and the other dealing with all phases of power trans-

9640 mission and distribution. Those committees have functioned over the years, they have been highly important, they have had remarkable results which have been reflected in the operations of the respective companies.

In effect, the result has been an engineering pool, giving each company the value of the consulting engineering services of the other companies.

You know, from your own general knowledge of the util-
9641 ity industry in this country, how important it would be for a company in a metropolitan center to have the detailed aid of engineers from other metropolitan centers. There is no such group anywhere else in this country as these North American committees.

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We offered in evidence, as our Exhibits 131 and 132, specimen minutes of these committees. We brought down all the minutes over the years. They filled suitcases. And we just offered a specimen. Then we said to the staff, "If you don't think this is a fair specimen, you pick your speci-
9642 men" and we left the minutes with the staff. I gather that they thought we had picked a fair one, because they didn't offer any.

The minutes were too long to quote in the brief, so we only have a very short excerpt. I wish you would glance at those minutes. You will be impressed at the variety and importance of the topics considered. They show on their face the tremendous value of the work of these committees.

Now more recently, a similar accounting committee has been formed. As you know, accounting problems have been getting steadily more important, and this is also functioning

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now. The executives of the sister companies are also in contact. —54—

Then there is another element, intangible if you like, but nonetheless real, and that is the competitive rivalry between these companies. They exchange the most detailed cost statistics regularly, and by the "most detailed", I mean right down to the last cent on everything.

They not only do that, but the chemists of each company analyze the coal of each other company to be sure that they 9644
are getting a fair comparison. Adjustments are made to make comparisons fair. As you know, the great difficulty in comparative statistics is to get a base that everybody will accept and say is a fair comparison. Having gotten this fair basis, then these elaborate and detailed statistics are exchanged monthly between the operating companies and, as one witness testified, Mr. Crawford, the President of Cleveland, it was like the standings in the American Baseball League. When those sheets came in, they showed how Cleveland stood as contrasted with the other companies. And each of the presidents have testified to this remarkable rivalry 9645
which exists between these companies. That rivalry has absolutely no counterpart elsewhere. In no other utility companies do we know of such feeling toward a non-affiliated company. It is a family relationship that produces it.

Now the suggestion w s made during the course of the hearings that all of the system relationships might continue if you terminated the system. We think that that suggestion is absurd on its face. —55—

The testimony shows that this exists only within the system. I might further say that the testimony shows that

9646 *Argument of S. Pearce Browning, Jr., and Charles S. Hamilton, Jr.*

one company which retired from the system committees retired when financial control passed.

So that if you break up this system, you are going to break up something very fine and very valuable, and something which has been beneficial to the public, to consumers and to investors.

Turning now to the (B) standard, we realize that this has been fully argued before the Commission, with all the
9647 legislative precedents and construction questions, and we have no desire to repeat those arguments. Our contention is that in any case the three systems here meet the (B) standard test, because they are in adjoining States.

Commissioner Healy: Adjoining what?

Mr. Browning: Adjoining each other, Judge.

If you take Union as your principal system, you have Union in Iowa, Missouri and Illinois, with Wisconsin adjoining, Michigan adjoining and Ohio adjoining. You have met the statutory test. If you take Cleveland as the principal system, you reach the same result.

9648 Commissioner Healy: What State does Ohio adjoin?

Mr. Browning: Michigan.

Chairman Eicher: On that theory, you could run a shoe-

string clear across the United States, couldn't you?

Mr. Browning: I don't think that you can construe this statute in a vacuum. If you will look at the Federal Power Commission maps of the utilities in this country, it is perfectly clear that that question doesn't arise. We meet the statutory test, we are in adjoining States.

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Turning to the (C) standard, the so-called size standard——

Commissioner Healy (Interposing): Just a minute, before you leave that.

Suppose you took Cleveland as your principal system. On what basis do you contend that Illinois adjoins the State of Ohio, or Missouri or Kansas?

Mr. Browning: Off the record.

(Off the record discussion.)

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Commissioner Healy: You own property in Kansas?

Mr. Browning: We are not arguing for retention of that as a matter of statutory construction.

Commissioner Healy: Let's take your Union property in Missouri.

Mr. Browning: Could I just clarify that for one minute? Our constitutional case stands with respect to all properties. On the other hand, in discussing these issues of statutory construction, we are only dealing with three systems, Cleveland, Union and Wisconsin.

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Commissioner Healy: All right. Now let's take Union.

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How does the Union property in Missouri, how can it be said to be adjoining Ohio if Cleveland were selected as your principal system; how could you work that out?

Mr. Browning: Because there is nothing in the statute except the word "adjoining". Wisconsin adjoins Illinois—we have properties in Wisconsin; Michigan adjoins Wisconsin—we have properties in Michigan, in the northern peninsula there; and we have properties in Ohio which adjoin Michigan.

9652 Commissioner Healy: That is, you work out your connection between Cleveland and Missouri by saying that you have something in Michigan and Michigan adjoins Ohio?

Mr. Browning: Yes, sir.

Commissioner Healy: And you have something in Wisconsin, and Wisconsin adjoins Michigan?

Mr. Browning: Yes, sir.

Commissioner Healy: And you have something in Illi-
9653 nois, and Illinois adjoins Wisconsin; and you have something in Missouri, and Missouri adjoins Illinois—is that it?

Mr. Browning: Yes.

Turning to the (C) standard, the question is one of size, or how big is "too big"?

Now I find Commission's counsel's discussion of this no less than remarkable. It is a masterpiece of generality—so was his oral argument today.

In other words, he says, "This system is too big". That

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is all. How do we know it is too big? What is the test?

9654 Commissioner Healy: Well, the burden is on you under (C) to show that each one of these additional integrated systems is not too big.

Mr. Browning: Yes, sir, and we have met that burden.

Now when I was at law school, one of the very noted law professors there used to talk about visceral logic. I don't think that we ought to go on that in this case; in other words, on a mere feeling.

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I think we ought to apply these tests, and that is what we have done in our brief, we did apply the tests.

Argument of S. Pearce Browning, Jr., and Charles S. Hamilton, Jr. 9655

The Commission's staff makes no effort whatsoever, they never mention the three tests in (C). Their brief just says it is "too big".

Let's look at these tests right now.

The first is "not so large * * * as to impair the advantages of localized management"—and of course we are now talking about the combination. There is no question but that each of those groups has had localized management, for many years, long before this statute was ever passed, long before this 9656
Commission was ever established. That was the policy of North American as its own policy, and it followed it.

Those systems have had every advantage of localized management. They couldn't have had more. Obviously the combination has not injured the localized management.

Now, in that connection I want to mention one thing: Counsel in his brief made a slighting reference to the Union situation which developed sometime ago. I want to say on that, that while we are not trying the Union Case here, the trouble was certainly not lack of localized management. The trouble was the opposite, the management was too localized. 9657

Furthermore, while that situation was most regrettable, what organization do any of us know, public or private, which can point with pride to every act of all its employees and ex-employees? Even the finest groups—and we believe

The North American is a fine company with a fine record—have some troubles over a period of 50 years.

The important thing is that when those troubles arose, North American removed that management and put in a

9658 highly competent and new management which was a feat in itself.

Turning now to the test of efficient operation in standard (C), the evidence shows conclusively that not only are these three systems efficient, but they are outstanding leaders of their industry.

St. Louis is a remarkable combination of a hydro-electric and steam combination, and I hope you will read the figures.
9659 They have a remarkable record for operating expenses, low rates, and fine service.

As to Cleveland, you know, sitting on this Commission, that it is ranked as one of the finest electric utilities in the United States.

You know that in its 1940 financing, it received the lowest rate ever obtained by an American utility up to that time.

Then let's go to Wisconsin. Wisconsin is the only company ever to have won both Coffin awards for distinguished service in the electric and transportation fields. For any years it has had the most efficient power generation in the
9660 world, not only in the United States but in the world.

It was the original developer of powdered fuel, which has

saved untold millions of dollars for the utility industry of this country and for consumers. And I may say that its development of powdered fuel was a remarkable illustration of courage and vision, not only on its part but on the part of North American, because at the time it was developed all of the experts were saying that it couldn't be done, and they invested millions of dollars in that powdered fuel plant, when the experts said it couldn't be done.

Any person who knows the utility industry knows of Milwaukee's outstanding technical reputation.

Now, obviously, the combination has not injured efficient operation.

And let me show you how the combination helped. Take this powdered fuel, an outstanding, pioneering achievement in the utility industry, first developed in Malwaukee.

What happened next? The second plant in the country to have powdered fuel was at St. Louis, and there were further refinements and developments. The Wisconsin engineers were down there working to help them, and watching. In other words, the first invention was made, and then it developed within the system.

Then we come to effectiveness of regulation. Now each of these three systems is regulated in all phases of its business by the respective State commissions.

The testimony is conclusive that they have been effectively regulated, and among other matters that all affiliate

relations are regulated. We submit that it is impossible for the combination to injure the effectiveness of regulation, that it has not and cannot.

As to size generally, we have shown by the evidence, which is reviewed in our briefs that this North American three-system combination is smaller than various single systems in the United States, both private and Governmental, and smaller on all tests. We took them all, square miles, kilowatt hours generated, generating capacity, revenue, assets—what you will. Of course, on the square mile test alone, Commission counsel has conceded that the Kansas Power & Light

9664 Company is a single integrated system and its square mileage is greater than the three systems combined.

Now we also show that this three-system combination was smaller than other leading American businesses.

One characteristic of America is that we are big here. In South America they refer to us as "El colosal del Norte". That is our common name. We are big, everything is big in the United States. We don't have 50 telephones, we have
9665 1,000. We don't have one automobile for every ten persons, but one automobile for every other person.

The South Americans think that that is remarkable, that we should be so big. But we are used to being big.

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Now this system combination is a big system, but it is not big in comparison with other leaders in American industry. The staff has stressed the distance from the New York office. I frankly can't see what that has to do with the case. Suppose we change the office to Chicago overnight. As you know, distance is shortening all the time. Think of the sit-
9666 uation now as contrasted with that 10 years ago. Think of the improvement in transportation and communication facilities. And we have seen nothing as yet, because those distances are going to shorten still.

I can reach anybody on the telephone in Cleveland in as short a time as I could reach somebody in the next block.

We have also offered in evidence the report of a distinguished economist, showing that the Middle West constitutes a widely acknowledge region. All economists acknowledge it as a region in itself. In other words, these three systems

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are all located in one economic region. We submit that that is a highly significant factor which this Commission should consider.

Now if I may, I should like to turn to the last issue of Construction, which is the election of the principal system, and counsel has mentioned the fact that neither in the findings nor the brief have we elected a principal system.

The only statutory mandate is that each holding company shall limit its operations to a single integrated system 9668
and to permissible other businesses in secondary systems. The Act does not require that the holding company designate

which of the systems shall be the principal system, and no such additional requirement can be added to the statute.

Now I am not fencing with words at this point, because the point is very material to North American.

Since the construction issues here concern three concededly integrated systems, and only three, St. Louis, Wisconsin and Cleveland, if the Commission should overrule our contention that all three may be retained, then North Amer- 9669
ican should have the right to dispose of its interests in any such groups as circumstances permit. That is a highly important right, because we wouldn't know in advance, any more than the Commission would, what the circumstances regarding sale would be. That right is of great value to North American, and we insist that it is not called upon to designate a principal system under the facts of this case.

Commissioner Healy: Does anybody have that right?

Mr. Browning: Yes, sir.

Commissioner Healy: Who?

9670 *Argument of S. Pearce Browning, Jr., and Charles S. Hamilton, Jr.*

Mr. Browning: North American. We submit that it is clearly the company's right, if one must be designated.

Commissioner Healy: Why don't you exercise it?

Mr. Browning: We submit that we have the right to designate it, and that if you disagree with our argument, our primary argument—which is that we don't have to designate—and you hold against us, then we submit that we have

9671 the right to designate as soon as you call upon us.

Commissioner Healy: You are not ready to do it now?

Mr. Browning: At this moment, no. If the Commission tells me that we must, we will do it immediately.

Commissioner Healy: Well, my trouble, frankly, is that I get into difficulty with this word "additional". First the statute says that the holding company must reduce itself to the ownership of one integrated system. Then it says it can keep "additional" systems. That implies additional to something. What can it be additional to?

Mr. Browning: On the facts of this case we contend that

9672 each of the three clearly qualifies on the tests for secondary systems.

Commissioner Healy: Well, what are they additional to?

Mr. Browning: To the third, which is primary. You have here just three systems. We have shown that each of the systems meets the tests. Now then, since each of the systems meets the tests, there is no reason why either you or we have to face the problem of which is principal.

Commissioner Healy: Now you say they meet the tests?

Mr. Browning: Yes, sir.

Commissioner Healy: They meet the tests applicable to additional systems in your contention?

Mr. Browning: Yes, sir; they have been conceded to meet the primary tests.

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Commissioner Healy: Additional to what?

Mr. Browning: Additional each to any one of the others, except that under the (B) standard, either Cleveland or Union is required to be the principal system. I think we can 9674
work it down to that.

But we submit that if you do reject our views, that North American alone has that right to designate, and we are ready to designate immediately.

Commissioner Healy: How immediately?

Mr. Browning: Pretty immediately, Judge.

Commissioner Healy: Not today at least, is that right?

Mr. Browning: I should prefer—if you insist, I will.

Commissioner Healy: I am not proposing that.

Mr. Browning: I am prepared to do so if the Commission requires it, but I submit that we are entitled to considera- 9675
tion of that argument, and in our brief——

Commissioner Healy: (Interposing) Suppose we don't put it in too formal terms. Would you be willing to guess as to which one of these systems, North American might designate as the principal single integrated system if we held against you on the question of statutory construction?

Mr. Browning: Do you want my guess, Judge?

Commissioner Healy: Yes.

Chairman Eicher: Educated guess.

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9676 *Argument of S. Pearce Browning, Jr., and Charles S. Hamilton, Jr.*

Mr. Browning: If we are required to elect, we elect Union, but I submit that we are not required to elect, and that any order which is issued, if it overrules our contentions that we are entitled to maintain all the systems, should be in the alternative. This Commission, I may state, in its Commonwealth & Southern tentative order, has dealt with alternatives, and I thought very clearly.

Commissioner Healy: What do you think Union includes?

9677 Mr. Browning: It is conceded to be a single integrated system.

Commissioner Healy: Does it include the Illinois-Iowa Power Company?

Mr. Browning: Oh no, Judge. It is the Union Electric Company of Missouri and its subsidiaries.

Commissioner Healy: That includes the Mississippi River Power Company, for example?

Mr. Browning: That is right.

Commissioner Healy: And it includes the Union Electric Company of Illinois?

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Mr. Browning: That is right. And it is our position that it also includes St. Louis County Gas Company.

In conclusion, may we say that North American has had a long and honorable history. For over 50 years it has held a high place in the United States. It started with the beginning of the electrical business. It has developed these fine operating companies which have rendered outstanding service to the public, their consumers and investors.

We ask you to consider the achievements of the four operating groups. Does anyone think that it is an accident that

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each of our operating groups holds the position that it does in the utility industry? Is anyone as naive as to think that it is a coincidence that Washington, Cleveland, Milwaukee and St. Louis hold their outstanding positions? You read just this past week a statement by Secretary Ickes concerning a possible power shortage, and probable measures which would have to be taken. There is no power shortage in the North American subsidiaries. Nobody in those cities is going to have to cut down his consumption of current. There will 9680
be no shortage whatever. Why? Because those subsidiaries started two years ago to build facilities to meet this emergency. In other words, they looked ahead and they had long-range planning, and that is characteristic of North American's subsidiaries.

North American has a great achievement in that its

policies and aid have developed these subsidiaries. We are proud of them and of what North American has done.

Now on various occasions here, members of your very courteous staff have said to me, in substance, "Remember, 9681
we did not write this law, but we are here to enforce it, and it is our duty to enforce it; in other words, if North American is to be dismembered, it will not be the fault of the staff or of the Commission or of Congress, the law requires it."

Now in all frankness, that state of mind represents an unconscious effort to evade responsibility. Unfair and destructive as this statute is, its framers still left to this Commission sufficient room for it to preserve the fundamental structure of The North American Company through the combination of the three systems. The Commission needs

9682 not strain to reach the result. Even a fair construction of the Act permits it. It is only if the statute is distorted, rewritten by the legislative efforts of the staff itself, that North American will be dismembered.

So we submit to you that this case is now the very grave responsibility of this Commission. It is now your problem whether you will tear apart and dismember a great and distinguished company, destroying something fine and valuable;
9683 or whether, administering justice with economic statesmanship, you will apply this law so as to preserve The North American Company, permitting it to continue its distinguished contributions to this accomplished age.

—70—

Commissioner Healy: I presume as a lawyer you believe in the supremacy of law in the United States?

Mr. Browning: Yes, Judge, I do.

Commissioner Healy: Do you believe what the unanimous Supreme Court, speaking of the Federal Trade Commission—another independent commission—said, that such
9684 commissions had no right to have any policy except the policy of the law?

Mr. Browning: Yes, sir. My difficulty, Judge, in the construction of this statute, is that I think you have gone beyond that point.

Commissioner Healy: Well, of course, that is a question that will have to be settled by the courts ultimately, will it not?

Mr. Browning: You have concededly not followed its literal meaning.

Commissioner Healy: Who has conceded that?

9685

Mr. Browning: I mean that Standard (B) was rewritten, so far as I know, in the U.G.I. case.

Commissioner Healy: I don't think that that is so at all.

Mr. Browning: Well, perhaps it might be differently phrased.

Commissioner Healy: Of course, you could say that of any statute, or of a will, or a deed, or any legal document. Of course, we have to concede that the last word on the construction of a statute lies in the courts.

9686

—71—

Mr. Browning: Yes, sir.

Commissioner Healy: That is entirely proper, and that is consistent with the supremacy of law in the United States, and we construe these statutes as well as we can, as lawyers, You do the same thing, and so do the judges of the courts.

Under your statement of reducing these issues to three systems, why shouldn't this Commission forthwith issue an order requiring you to divest yourself of everything outside of the three systems?

9687

Mr. Browning: Our position on that is that first, while we know the Commission has already passed on the point in another proceeding, that such an order is not warranted by the statute; but over and above that, we cannot see what possible purpose it would serve here.

As you know, all steps are being taken which North American can take to dispose of these other interests. Of course, it is our fundamental position that you constitutionally cannot do it, so we cannot consent to any such order.

I can't see what possible practical good it would do.

9688 *Rebuttal Argument of Ralph C. Binford*

As you know, North American is pretty close to the mark on this Washington thing. We think it would hurt the situation and not help it.

Chairman Eicher: Mr. Binford, have you any reply?

Mr. Binford: Yes.

—72—

Rebuttal Argument of Ralph C. Binford:

Mr. Binford: I wish to state that my incorrect statement relative to the investment of North American Company in
9689 Detroit Edison was wholly inadvertent. I didn't intend it as an exaggeration for effect or otherwise.

In the requested findings of fact filed by counsel for the Commission, it is requested that the Commission find that as of December 31, 1940, the investment of The North American Company in the Detroit Edison Company amounted to $29,822,316, which is taken from the exhibit of the respondent in this case. My figure of $40,000,000 was inadvertently stated, it was not an attempt at exaggeration. As of the same date, the investment of The North American Company in Pacific Gas & Electric Company was carried upon the
9690 books of The North American Company at $63,765,419.

—73—

For the general purpose for which these figures were given, namely to show the enormous magnitude of this system, such a discrepancy in figures has no particular meaning.

Now, on the question of the meaning of the words and phrases, such other businesses as are "reasonably incidental or economically necessary or appropriate to the operations" of such integrated public utility system, counsel for respondents state that we have not been specific in our argument, and

that the word "incidental" has numerous meanings other than functionally related.

I concede that the word "incidental" does have other meanings. The dictionary gives a number, such as casual, or things occurring perchance. However, we submit, as used in this section, with reference to the powers which a holding company will be permitted to exercise, and the field of the exercise of those powers, our nearest analogy for the use of the word "incidental", particularly when the word is preceded by the adverb "reasonably", is that there is some functional attribute to be given to the word, and we proceeded upon that basis, and we think that the words used together, or in the manner in which the several phrases are used here "reasonably incidental, or economically necessary or appropriate", they take some degree of color from each other, and regard it as having meaning within a somewhat similar field. 9692

As to the specific properties involved here, the coal company, the transportation properties, the office building which

—74—

houses the Hanover Bank and The North American Company only—possibly I might in a different sense say—incidentally, and the North American Securities Corporation, it seems to us evident that there is no way in which it can be said with any degree of reason that the retention of this office building in the heart of the financial district of New York is "reasonably incidental or economically necessary or appropriate to the operations" of the electric utility system in Cleveland, Ohio, or to the one in Wisconsin and Michigan, or to the one in St. Louis; and if it is not "reasonably incidental" to the operations of any one of these three, it is not retainable under the terms of the Act. 9693

9694 *Rebuttal Argument of Ralph C. Binford*

The same thing is true as to the coal mining properties, which do not furnish coal to the utilities here in question, namely those of the West Kentucky Coal Company. It was suggested that when they were purchased some 30 years ago, it was thought that these coal properties might be used as a source of supply for the Union Electric of Missouri companies, but they never have been so used to any degree.

Counsel also, I believe, misunderstood my statement relative to the Florida Case, which I cited, which case, by the
9695 way, is not unusual under numerous authorities cited in it—and there was a key number given in the digest showing a long line of cases to the same effect. His understanding was that the later general law regulating banks, which was held

to govern over the provisions of a prior charter by special act of the legislature, expressly repealed that special act. That is not true in this case. I possibly did not make the statement clearly enough. But the general act in that case, just as in the present case, related to an industry or a field of business activity, as a whole, without specific reference to any
9696 special charter or other special laws theretofore enacted, and it was held that the general regulation prevailed over the apparent charter powers.

Getting to the question of the retention of these several systems by The North American Company, under the (A), (B) and (C) standards of section 11(b)(1), it is again argued by counsel for the respondent that our argument is too general. They speak of the benefits supposed to accrue by reason of advice from The North American Company; financial assistance from The North American Company, by way, however, apparently of advice rather than of contribu-

tions in the main; and thirdly, of the intercompany relationships through the several committees.

Now, I think there may be some benefits which are intangible, possibly, as counsel suggested.

The words of paragraph (A) are these:

"Each of such additional systems cannot be operated as an independent system without the loss of substantial economies which can be secured by the retention of control by such holding company of such system."

—76— 9698

The only economies that I see in this argument that are relied upon are only called such by stretching the meaning of the word. They are the supposed benefits which have not been calculated in dollars and cents, or in actual degrees of efficiency, related to the so-called benefits, which these several companies receive by reason of their contacts with the personnel of The North American Company.

It isn't a dollars and cents proposition. It isn't like a case where you have several small companies in one State or an adjoining State, where there are economies in purchasing or economies that can be measured in any pecuniary 9699 or any other sense, other than emotionally.

Now, we don't know, as far as the record shows, whether the financing that a certain company of the North American system did at a certain time, was solely by reason of advice received from the several financial experts of The North American Company, and resulted in substantial savings, or whether they would not have done it anyhow, in the absence of such advice. —77—

The benefits supposed to accrue from the exchange of information through these so-called inter-company com-

mittees, which are three in number, the station operating advisory committee, composed of mechanical engineers; the electric committee, composed of electrical engineers; and the accounting committee, composed of accountants of the several companies—were not apparently fully realized until this present 11(b)(1) proceeding was begun, because up until that time only two of these committees existed. Then, after these proceedings were started, it was suddenly recognized that the idea of having the engineers meet four or five
9701 times a year in regular meeting, might be a good one to carry a little further, and have the accountants do likewise.

At the time mention was first made of the accounting committee in this proceeding, it only had had one meeting, and that was an organization meeting.

These other committees have functioned over a long period of years, and there probably is quite a little benefit to be obtained by the exchange of information. But we respectfully submit that these three things—first, general advice from the executives of the holding company to the operating companies; secondly, the intervention to the bene-
9702 fit or detriment (we don't know which) of the operating companies, of the holding company's financial man in the financing of the operating companies; and third, the sponsorship by the holding company of the exchange of technical in-

formation between the companies—falls far short of showing that each of such additional systems can not be operated as an independent system without "the loss of substantial economies".

Now as to localized management, under (C) there is quite a degree of localized management, except in financial mat-

ters, among these several North American companies, and I think there is quite a showing of efficient operation.

On the other hand, "the continued combination of such systems under the control of such holding company," has not been proven, and the burden of proof is upon the respondent, not to be "so larg , considering the state of the art and the area or region affected, as to impair the advantages of localized management" in another sense, which I will mention, or the effectiveness of regulation.

Counsel for the respondents accuses me of making a slurring reference to recent happenings in the Union Electric Company of Missouri system. The reference wasn't intended as a slur, but rather as an avoidance by merely referring to the matter, of detailed argument, to show that the existence of the situation which developed in Union Electric Company of Missouri, and with which this Commission is familiar, and which is shown in part in the record in this case, obviously indicates, if The North American Company officials were wholly ignorant and innocent of the matters that arose in that system, and if the state authorities were unable to 9704

detect the matter until the point of indictment had been reached, and the point of a lawsuit for the purpose of forfeiting the charter of the Union Electric Company of Missouri had been reached—that this system, as presently constituted is getting so large as to get out of hand of eight officers and 99 employees of The North American Company located in New York. In other words, the effectiveness of regulation isn't demonstrated by the incidents in connection with that Union Electric of Missouri situation.

Now on the question of size, it is suggested that we have conceded that the Kansas Power & Light Company, in so

far as its electric utility operations and properties are concerned—this company being a subsidiary of North American Light & Power Company—constitutes a single integrated system, while its geographic extent in square mile area is greater than that of the three systems presently sought to be retained by The North American Company.

We don't think that is inconsistent at all. In the Kansas situation we have an entirely different area or region. It is a rural area, with great distances between centers of popu-
9707 lation, and there are no large centers of population in the area.

Consequently, in a sparsely settled rural section such as that, a system, to be operated at maximum efficiency, may be larger in square mile area than one in a metropolitan district or area such as Cleveland, Washington or the St. Louis metropolitan area. —80—

The statute specifically enjoins the Commission to look to the particular area or region affected.

So we see no inconsistency in that position that any two of these systems, or the three put together, which lie within
9708 The North American Company system, proper, would be too big a combination to meet the several tests of (C).

Now as to (B), by the adoption of the briefs in these other proceedings, which has been done here at the request of counsel for the respondent, the necessity of arguing (B) and the proper interpretation thereof, appears to be made unnecessary except in this respect.

Counsel for the Commission do not, of course, accept the interpretation suggested by counsel for the respondent that the word "adjoining" is a transitory word that would cover a string of systems extending all the way around the United States and eventually over the United States, merely because

each additional system may have properties in a state adjoining the next additional system in the chain.

—81—

Now we insist that the word "adjoining" relates to the State in which the principal system is situated, of course.

I think the other points have been covered as fully as is practicable in a matter of this kind, in the briefs which have been filed.

Mr. Browning: Could I give Judge Healy the figures he asked for? 9710

Chairman Eicher: Yes.

Mr. Browning: Judge, you asked whether North American had invested any equity capital in the Wisconsin group.

Commissioner Healy: That wasn't my question, but it is all right to answer it as if I had asked it.

Mr. Browning: A rough check shows $24,400,000 for that group alone, and our findings give a figure of $104,000,000 for the four groups.

Commissioner Healy: Of course, when The North American Company advised the Wisconsin Company to finance a generating addition through the issuance of bonds, it may 9711 have been acting primarily in its own interest, for all I know; as the owner of the equity, The North American Company would have the benefit of the leverage of the money invested by way of bonds.

If you had a three or four or five per cent. coupon on the bonds, and the rate of return permitted by the State Commission at that time was 7 or 8 per cent., the common stock would have the benefit of the amount by which the rate of return exceeded the cost of that money invested to produce that return; isn't that true?

—82—

Mr. Browning: It certainly is true that the issuance of senior securities at a lower rate increases the rate of return.

Could I say on that, Judge, that we are proud of our financial record and we hope you are going to read the briefs in which we discuss it.

Commissioner Healy: Of course we will read the briefs.

Mr. Browning: We are proud of our capitalization, we are proud of our financing. One of the things we have pointed out is that there has never been a default on a security in
9713 these groups. You know what a remarkable record that is.

One other minor matter which Mr. Binford and I agreed might go into the record.

One of the companies in the Union group had been dissolved, and all of its assets sold or distributed, and Commission counsel was not aware of the fact because the dissolution took place after the record closed.

I have furnished him with an affidavit by Mr. Woodbridge, and I wonder if we couldn't have that stipulated in as part of the record, or perhaps as an additional exhibit, because then it gets rid of that company, and you don't have
9714 to consider it?

Chairman Eicher: Is there any objection, Mr. Binford?

Mr. Binford: No, that is satisfactory.

—83—

Commissioner Healy: What is the name of the company?

Mr. Browning: St. Louis & Alton Railway Company.

Commissioner Healy: Is it a wholly-owned subsidiary?

Mr. Browning: Yes, sir.

Chairman Eicher: The Commission will take the matter under advisement.

(Whereupon, at 5:30 o'clock p. m., the Commission took the above matter under advisement.) —84—

CLERK'S COPY.

Vol. IX

TRANSCRIPT OF RECORD

Supreme Court of the United States

OCTOBER TERM, 1942

No. 721

THE NORTH AMERICAN COMPANY, PETITIONER,

vs.

SECURITIES AND EXCHANGE COMMISSION

ON WRIT OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE SECOND CIRCUIT

PETITION FOR CERTIORARI FILED FEBRUARY 10, 1943.

CERTIORARI GRANTED MARCH 1, 1943.

United States Circuit Court of Appeals

FOR THE SECOND CIRCUIT

October Term, No. ——

THE NORTH AMERICAN COMPANY,
Petitioner,

v.

SECURITIES AND EXCHANGE COMMISSION,
Respondent.

TRANSCRIPT OF RECORD

EXHIBITS

Volume IX

(Pages 3239 to 3378)

ON PETITIONS FOR REVIEW OF ORDERS OF SECURITIES AND EXCHANGE COMMISSION

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Petitioners' Exhibit No. 1

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON

OFFICE OF THE SECRETARY

June 27, 1940.

S. Pearce Browning, Esq.,
c/o Sullivan & Cromwell,
48 Wall Street,
New York, New York.

Re: North American Company and its
Subsidiary Companies,
File No. 59-10.

Dear Mr. Browning:

By direction of the Commission, it is requested that you file with the Commission, in the above entitled proceeding, a statement in behalf of respondents upon the following matters:

1. To what extent do the respondents consider that the issues in the subject proceeding have been correctly stated by counsel for the Commission in the statement submitted for the record by him on June 21, 1940?

2. The retention of which properties as a supposedly integrated public utility system, and of what interests in other businesses supposedly reasonably incidental, economically necessary or appropriate to the operations of such integrated public utility system, do the respondents consider to be at issue?

3. The retention of what properties as an "additional" system or systems, do the respondents consider to be at issue?

4. In respect of the retention of such additional system or systems, what questions relative thereto under the (A), (B), (C) standards of Section 11(b)(1) of the Act are deemed by the respondents to be at issue?

It is requested that the Commission be furnished with this statement on or before July 5, 1940, to aid it in passing upon your application for a continuance.

Very truly yours,

FRANCIS P. BRASSOR
Francis P. Brassor,
Secretary.

Petitioners' Exhibit No. 19

POTOMAC ELECTRIC POWER COMPANY

NET EARNINGS, COMMON STOCK DIVIDENDS AND SURPLUS

Year	After Preferred Dividend Requirements	Common Stock Dividend Payments — Amount	Surplus at December 31
1896—Date of Inception	$ —7,241.71	$ —	
1897	—4,949.16	—	Prior to
1898	1,098.95	—	January 1, 1903
1899	—8,193.36	—	surplus account
1900	—46,869.27	—	had a
1901	—34,931.78	—	deficit
1902	21,460.33	—	balance
1903	193,221.37	—	$ 237,153.89
1904	283,142.00	515,000.00	5,424.03
1905	335,161.26	340,000.00	585.29
1906	357,637.54	350,000.00	8,222.83
1907	406,547.97	400,000.00	14,770.80
1908	479,637.27	400,000.00	24,310.57
1909	531,385.24	400,000.00	51,422.08
1910	472,026.53	465,346.05	51,422.08
1911	527,372.59	475,000.00	93,086.08
1912	575,740.35	530,000.00	124,842.72
1913	624,655.72	600,000.00	132,278.69
1914	617,424.55	600,000.00	149,703.24
1915	666,941.58	660,000.00	156,731.33
1916	771,860.52	660,000.00	275,973.76
1917	647,094.13	660,000.00	263,067.89
1918	568,780.13	660,000.00	171,848.02
1919	544,903.01	540,000.00	177,877.09
1920	532,818.35	480,000.00	234,281.86
1921	905,086.11	600,000.00	547,348.46
1922	959,861.35	600,000.00	906,204.36
1923	1,029,896.46	600,000.00	1,347,166.45
1924	1,474,522.80	720,000.00	2,125,460.90
1925	2,295,724.12	3,720,000.00*	3,897,954.44
1926	2,491,988.51	960,000.00	5,403,550.50
1927	2,683,464.54	1,080,000.00	6,901,359.58
1928	3,307,647.08	1,200,000.00	9,598,578.65
1929	3,725,219.13	1,320,000.00	12,238,982.37
1930	4,371,088.38	1,440,000.00	15,932,210.34
1931	4,188,254.67	1,560,000.00	18,256,011.30
1932	4,084,816.04	1,680,000.00	20,341,544.51
1933	3,980,563.17	1,800,000.00	22,564,878.25
1934	3,588,830.78	2,280,000.00	23,578,116.67
1935	3,611,125.89	2,550,000.00	24,226,940.46
1936	4,051,266.24	3,600,000.00	30,781,930.47
1937	4,491,935.37	3,900,000.00	31,387,729.25
1938	3,694,121.87	3,900,000.00	31,304,397.34
1939	3,835,233.91	3,900,000.00	31,157,058.16

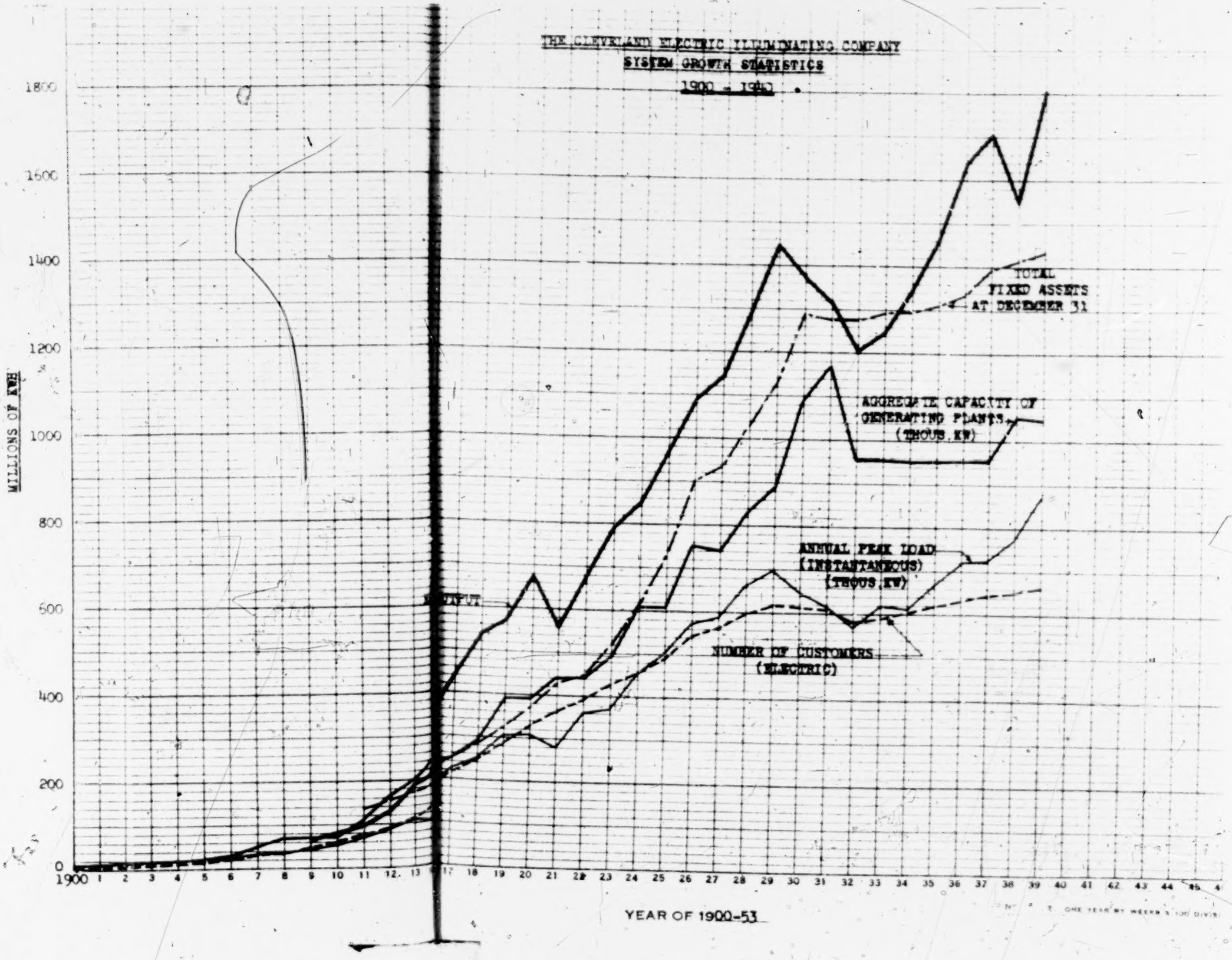
*Includes special dividend of $2,880,000 from Company's share of impounded fund.

—Minus sign denotes deficit.

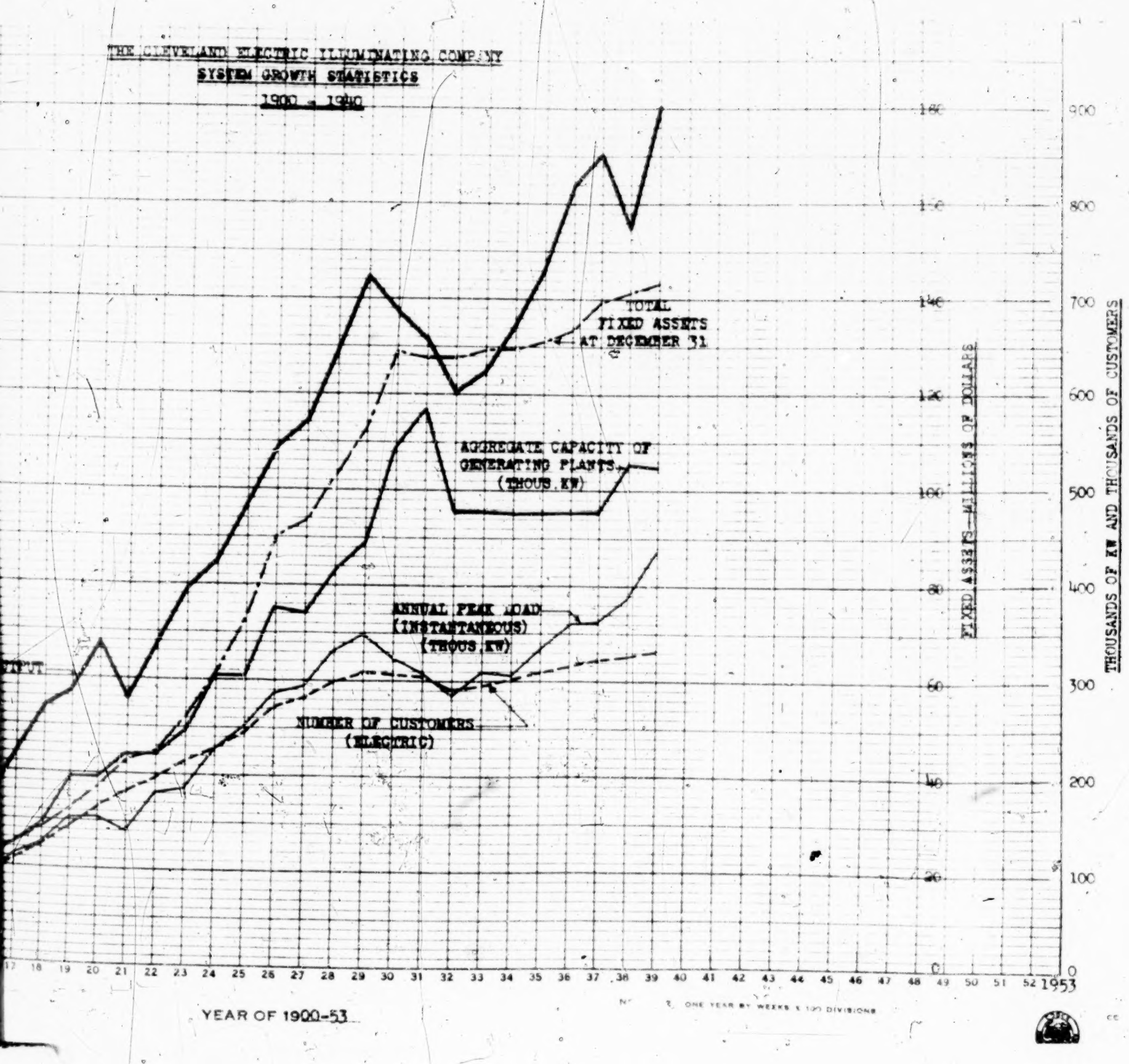
Petitioners' Exhibit No. 22

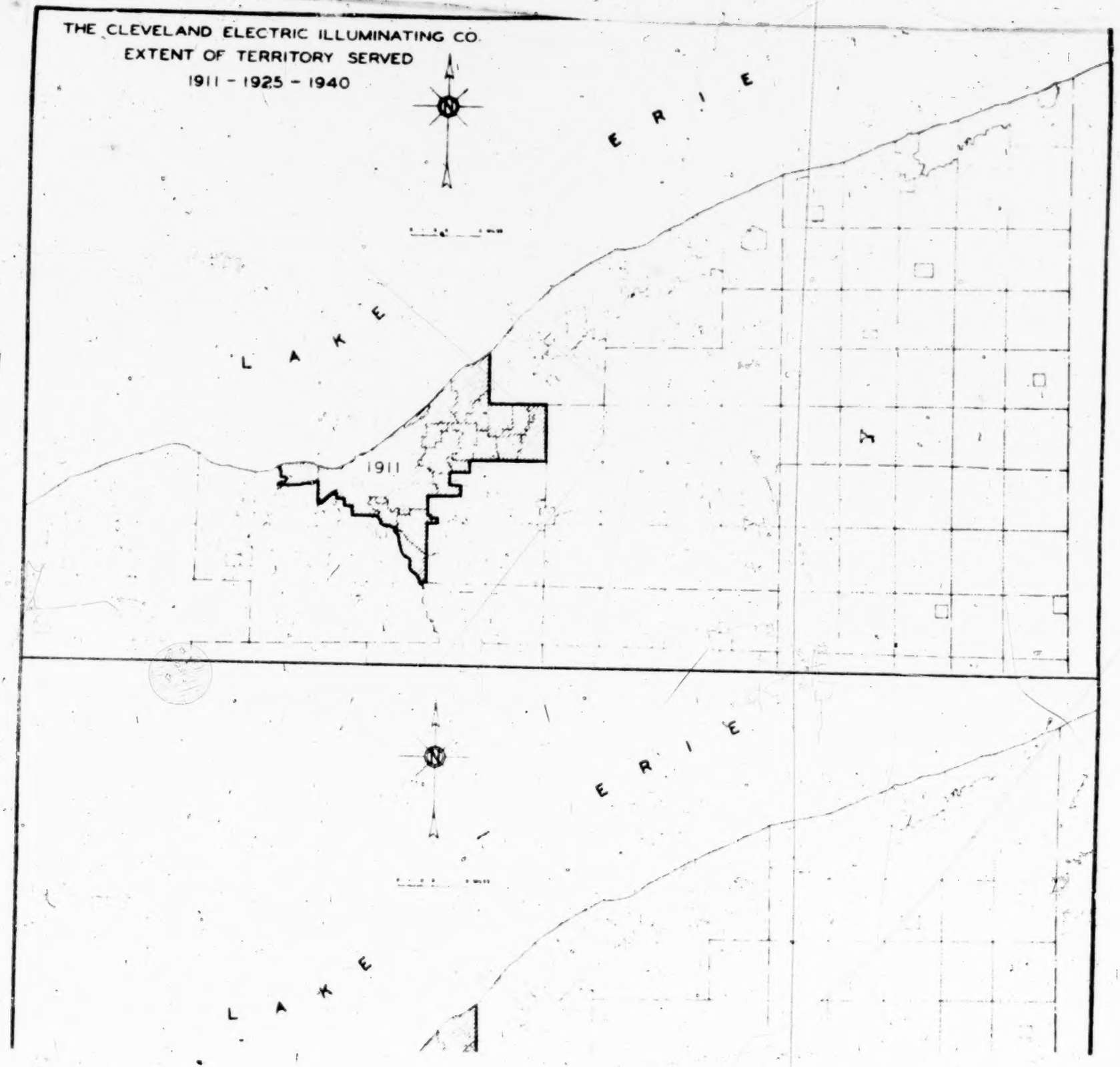
(PHOTOSTAT)

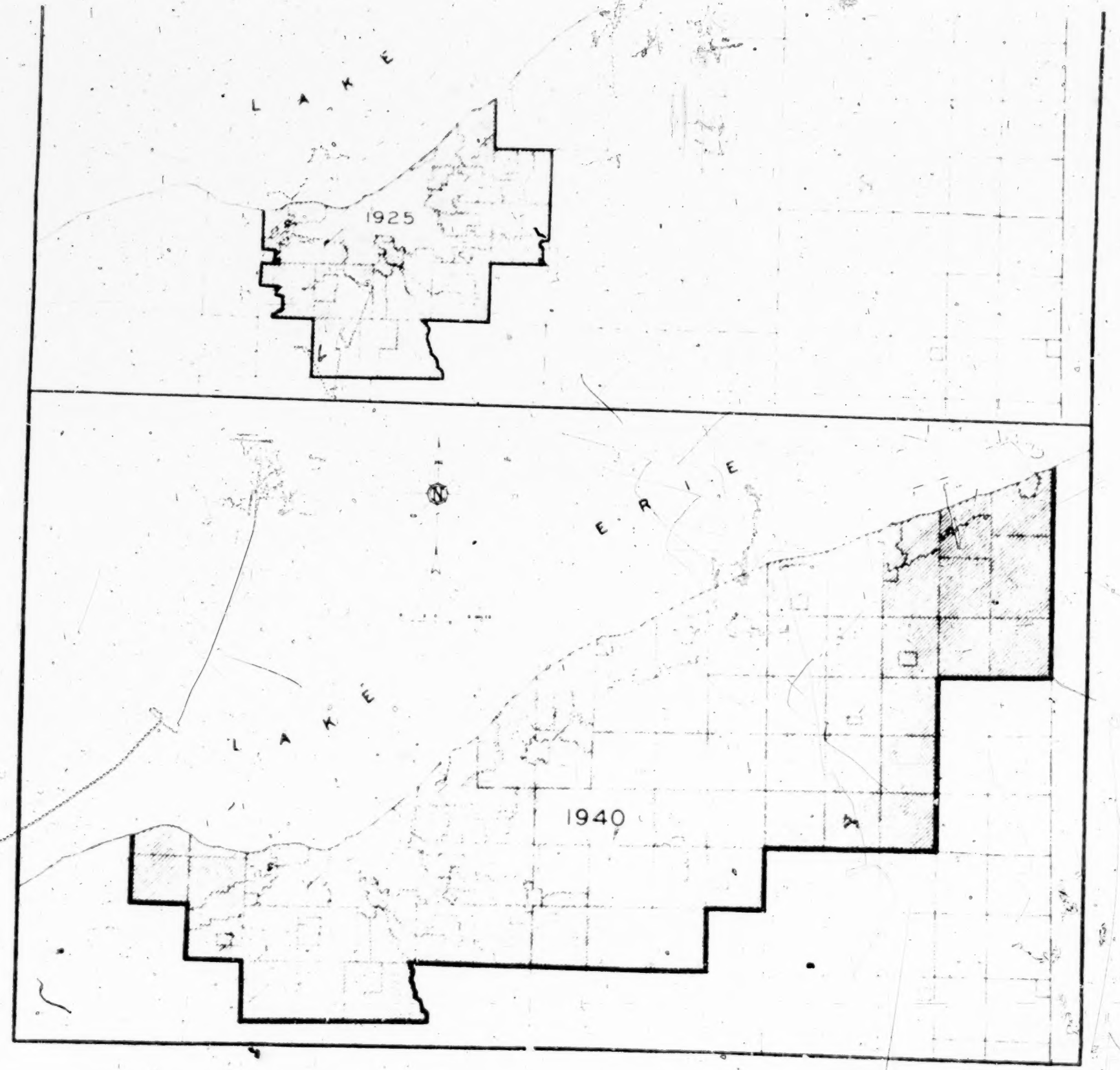
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY
SYSTEM GROWTH STATISTICS
1900 - 1940

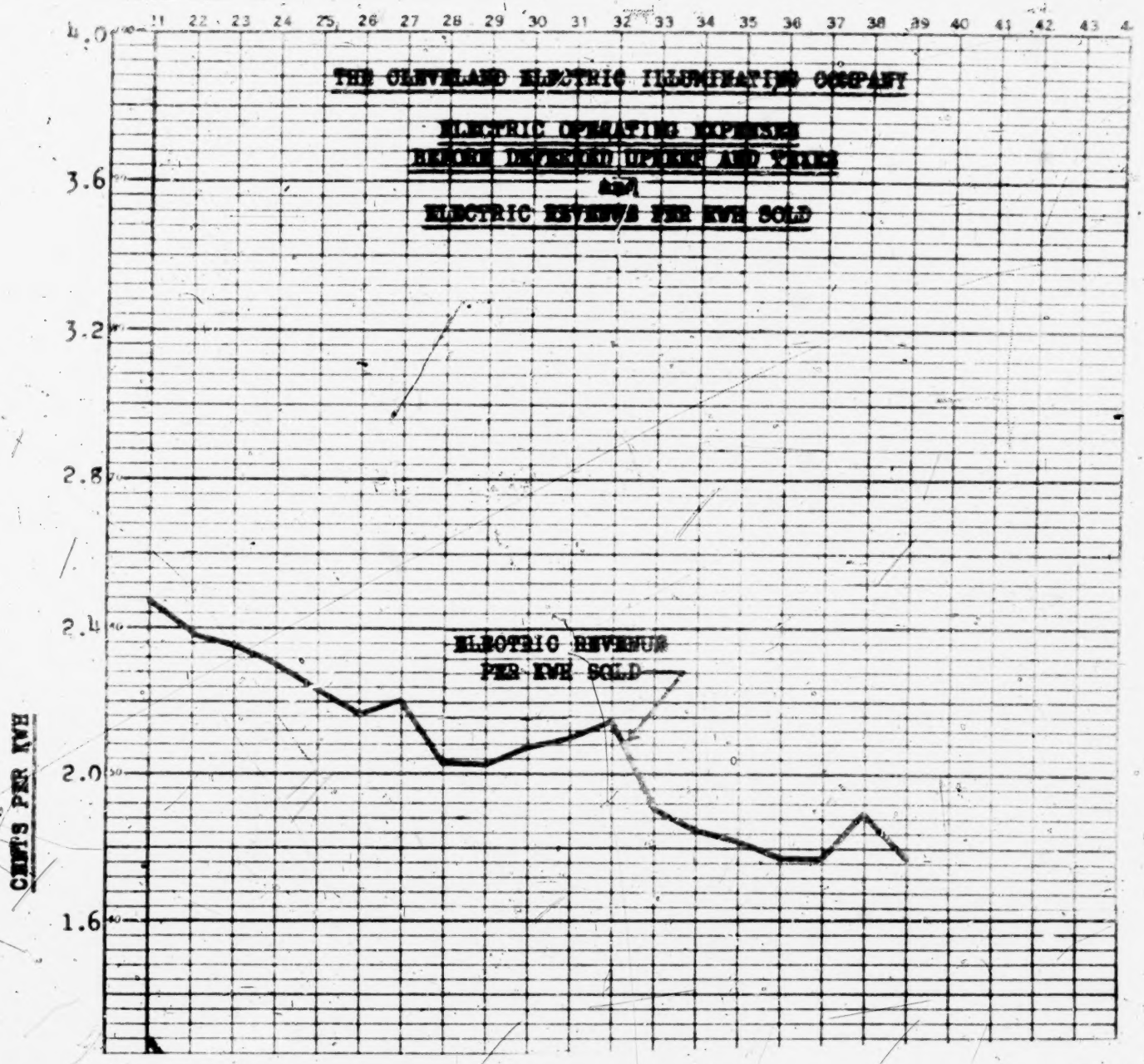


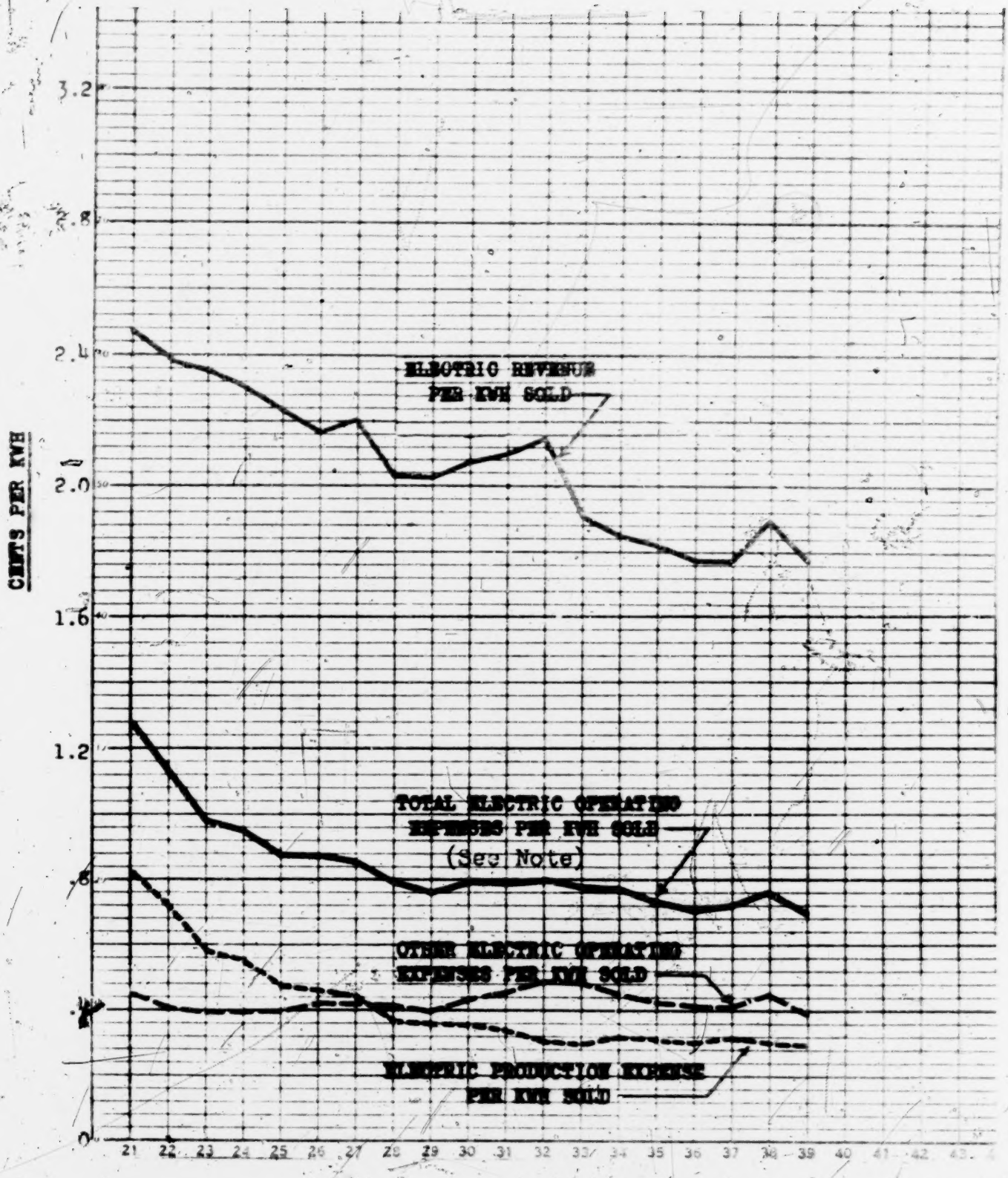
Stat.
7/10/40


THE CLEVELAND ELECTRIC ILLUMINATING COMPANY
SYSTEM GROWTH STATISTICS
1900 - 1940
TOTAL FIXED ASSETS AT DECEMBER 31
AGGREGATE CAPACITY OF GENERATING PLANTS (THOUS. KW)
ANNUAL PEAK LOAD (INSTANTANEOUS) (THOUS. KW)
NUMBER OF CUSTOMERS (ELECTRIC)
FIXED ASSETS—MILLIONS OF DOLLARS
THOUSANDS OF KW AND THOUSANDS OF CUSTOMERS
YEAR OF 1900-53
1953


THE CLEVELAND ELECTRIC ILLUMINATING CO.
EXTENT OF TERRITORY SERVED
1911 - 1925 - 1940
N
LAKE ERIE
1911
N
LAKE ERIE


LAKE
1925
N
LAKE ERIE
1940


THE CLEVELAND ELECTRIC ILLUMINATING COMPANY
ELECTRIC OPERATING EXPENSES
AND
ELECTRIC REVENUE PER KWH SOLD
ELECTRIC REVENUE
PER KWH SOLD
CENTS PER KWH
4.0
3.6
3.2
2.8
2.4
2.0
1.6
21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43



Note: Before deferred upkeep and taxes.

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

RESIDENTIAL REVENUE PER KILOWATT-HOUR
and
AVERAGE ANNUAL USE PER CONSUMER

REVENUE - CENTS PER KILOWATT-HOUR

10.000
9.000
8.000
7.000
6.000
5.000
4.000
3.000
2.000
1.000

KWH (in 000's)

1000
900
800
700
600
500
400
300
200
100

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47

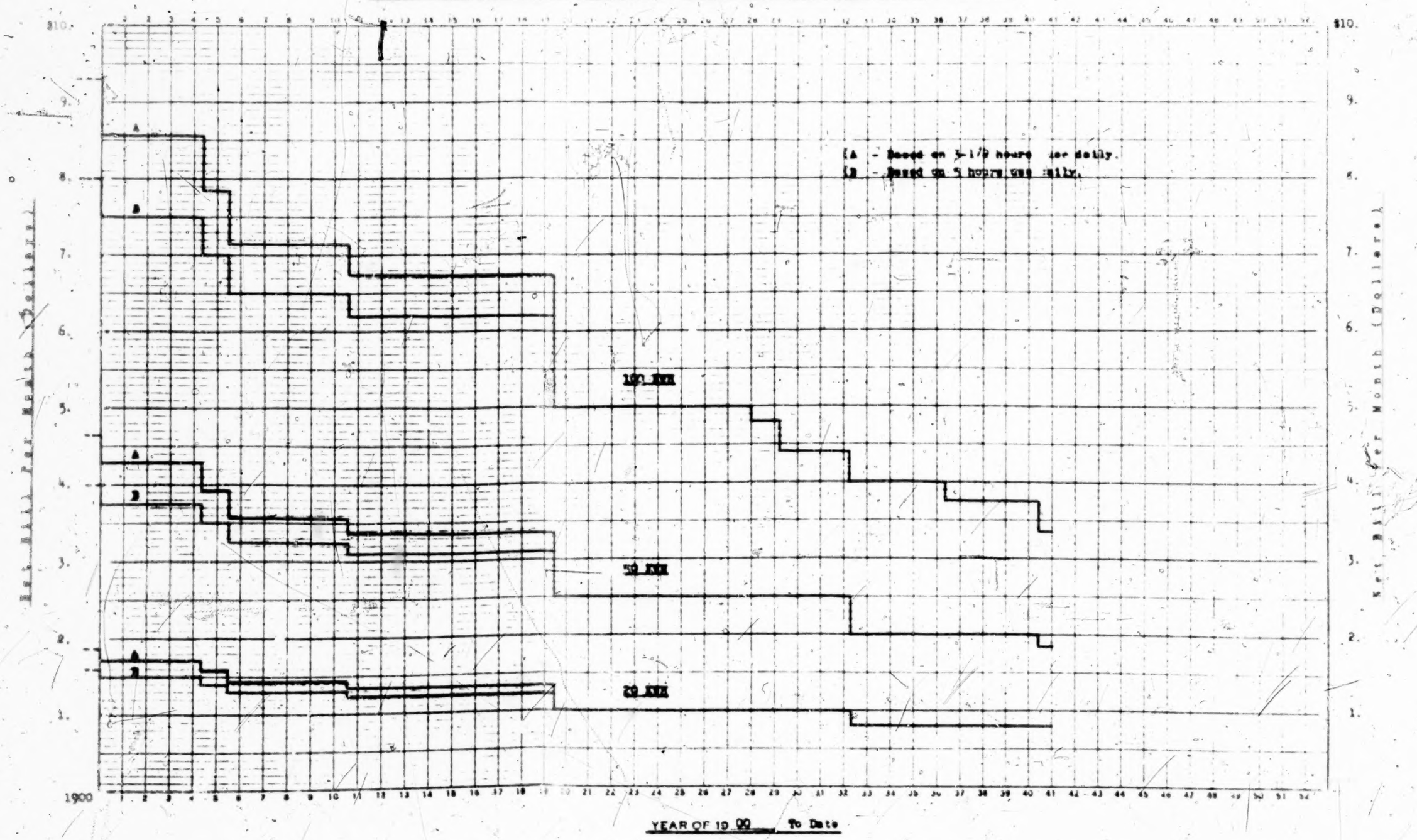
Kwh Per Consumer

Revenue Per Kwh

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

HISTORY OF RESIDENTIAL ELECTRIC RATES

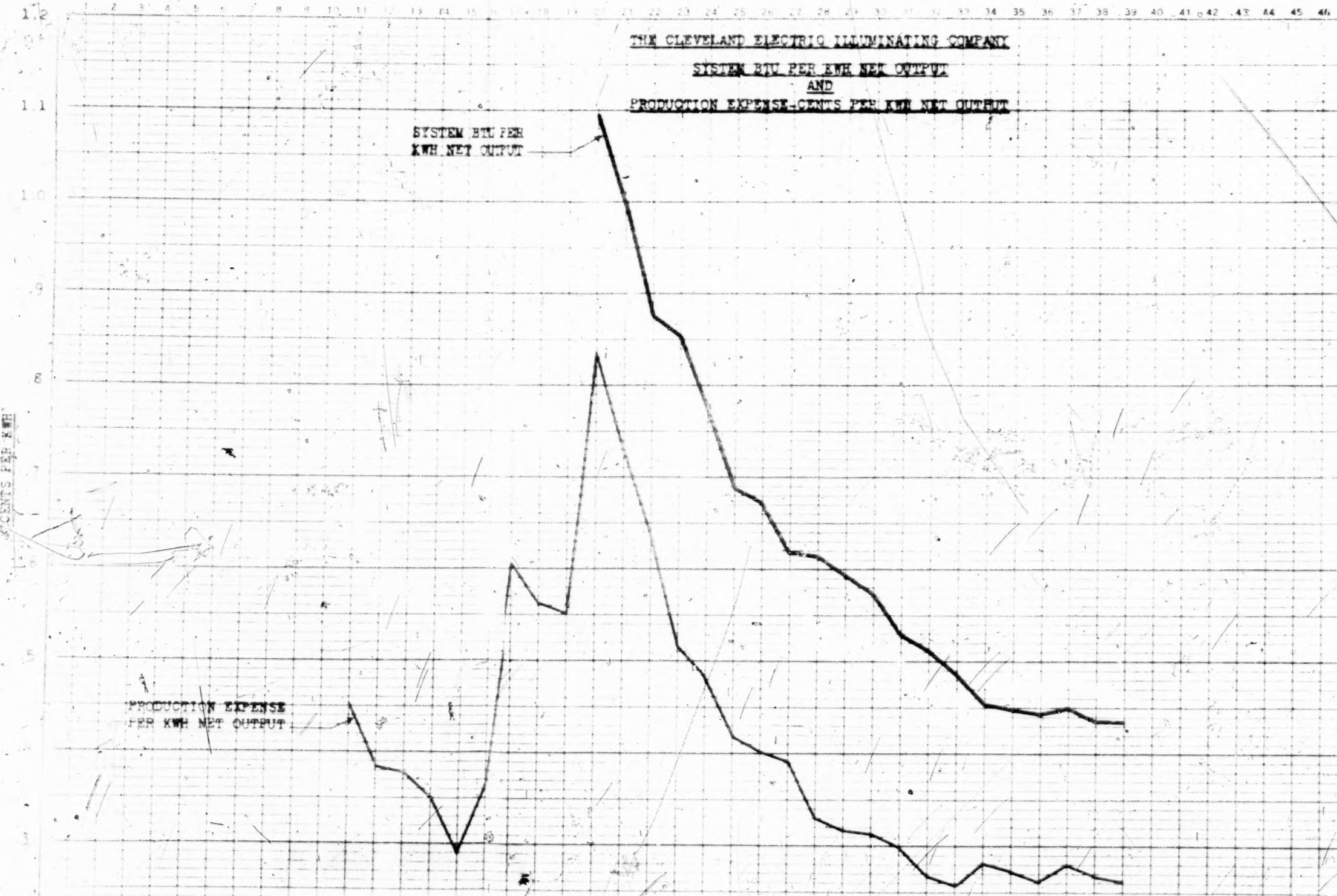
KWH BILL PER MONTH FOR 20, 50 AND 100 KWH.

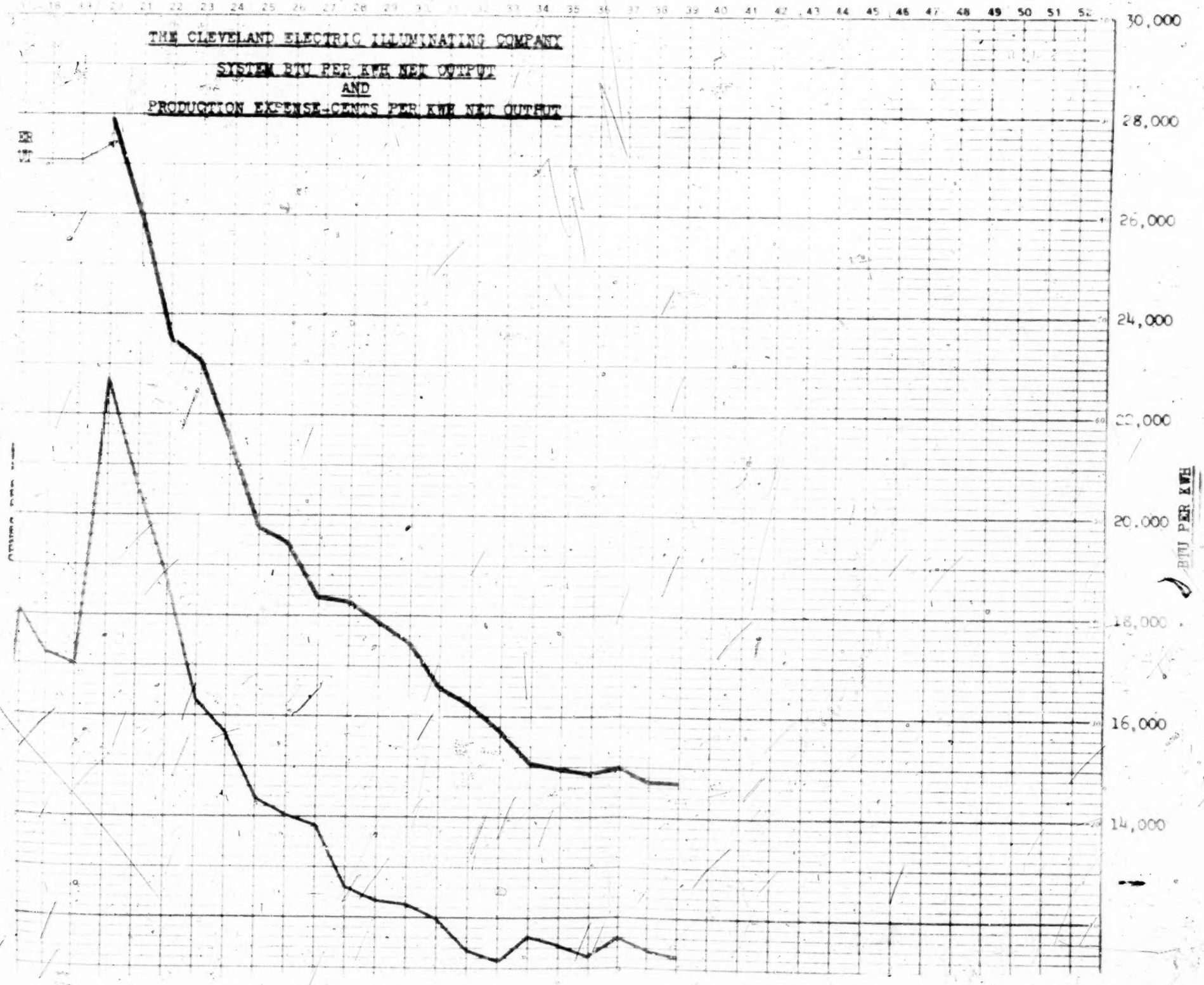


YEAR OF 19 00 To Date

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

SYSTEM BTU PER KWH NET OUTPUT
AND
PRODUCTION EXPENSE-CENTS PER KWH NET OUTPUT




THE CLEVELAND ELECTRIC ILLUMINATING COMPANY
SYSTEM BTU PER KWH NET OUTPUT
AND
PRODUCTION EXPENSE-CENTS PER KWH NET OUTPUT
30,000
28,000
26,000
24,000
22,000
20.000
18,000
16,000
14,000
BTU PER KWH

Petitioners' Exhibit No. 33

WISCONSIN-MICHIGAN COMPANIES

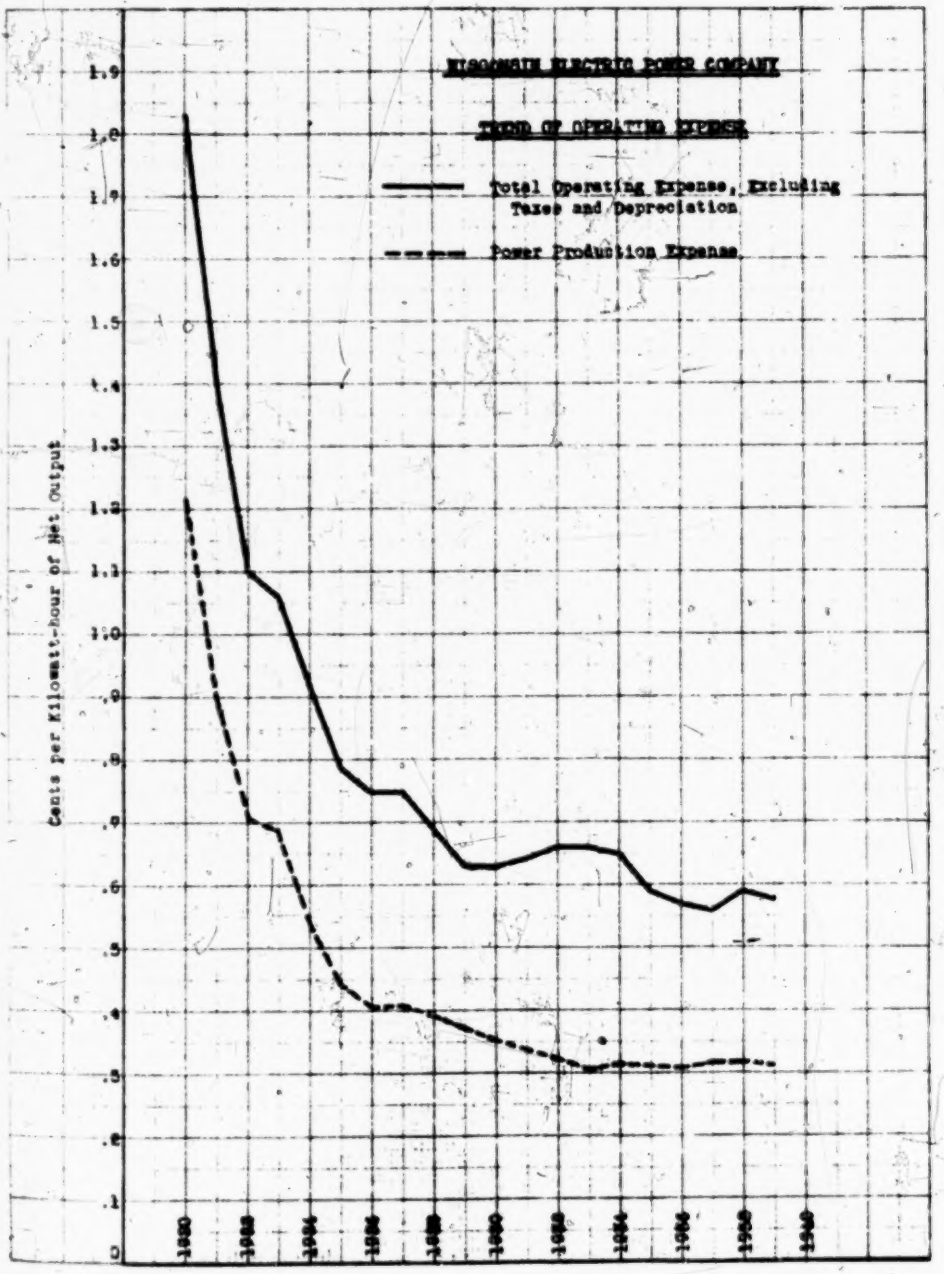
NUMBER OF CUSTOMERS AT END OF YEAR AND TOTAL ANNUAL ENERGY SALES

Year	Wisconsin Electric Power Company		Wisconsin Gas & Electric Company		Wisconsin-Michigan Power Company	
	Number of Customers	Kilowatt-Hours Sold	Number of Customers	Kilowatt-Hours Sold	Number of Customers	Kilowatt-Hours Sold
1910	12,151	25,122,394				
1911	16,639	33,013,188				
1912	22,606	44,937,261	1,714	803,755		
1913	27,451	58,765,891	2,466	3,966,424		
1914	35,871	63,233,930	2,983	3,885,248		
1915	42,659	73,017,861	5,486	6,383,218		
1916	51,243	105,736,833	7,096	9,940,168		
1917	59,169	149,618,475	9,176	15,088,022		
1918	62,948	195,856,217	10,145	22,127,268		
1919	72,292	200,827,840	11,749	31,083,955		
1920	83,361	249,248,313	13,918	38,649,263		
1921	94,797	226,789,404	15,612	36,300,769		
1922	108,420	308,942,928	17,321	53,736,924		
1923	132,036	395,016,712	21,526	67,396,312	9,600	95,960,128
1924	152,302	419,899,466	27,007	75,291,290	10,339	100,025,145
1925	171,696	512,056,477	29,131	97,240,706	11,078	125,378,999
1926	186,123	603,906,797	34,550	114,131,318	11,664	164,122,113
1927	200,416	642,275,737	38,601	110,480,278	21,236	170,916,975
1928	211,718	751,687,644	41,931	129,985,631	23,174	193,678,380
1929	222,407	894,232,022	44,919	139,335,611	26,111	194,022,730
1930	226,231	830,241,360	46,723	122,653,304	27,510	179,267,208
1931	227,217	741,787,496	48,060	117,810,943	27,986	151,724,648
1932	223,970	626,777,098	51,474	101,547,189	27,582	144,115,147
1933	226,829	638,880,258	52,252	105,646,792	27,886	128,746,907
1934	232,816	723,585,409	53,565	119,923,498	28,989	145,548,571
1935	238,301	837,060,362	55,213	145,507,724	29,506	154,598,746
1936	242,453	951,496,978	58,044	148,393,013	31,385	163,622,851
1937	246,211	1,098,299,414	61,862	160,889,885	33,458	174,561,361
1938	247,214	1,066,389,536	63,891	145,515,301	34,949	231,596,044
1939	250,770	1,194,464,505	65,724	170,719,589	36,297	212,348,714

NOTES:

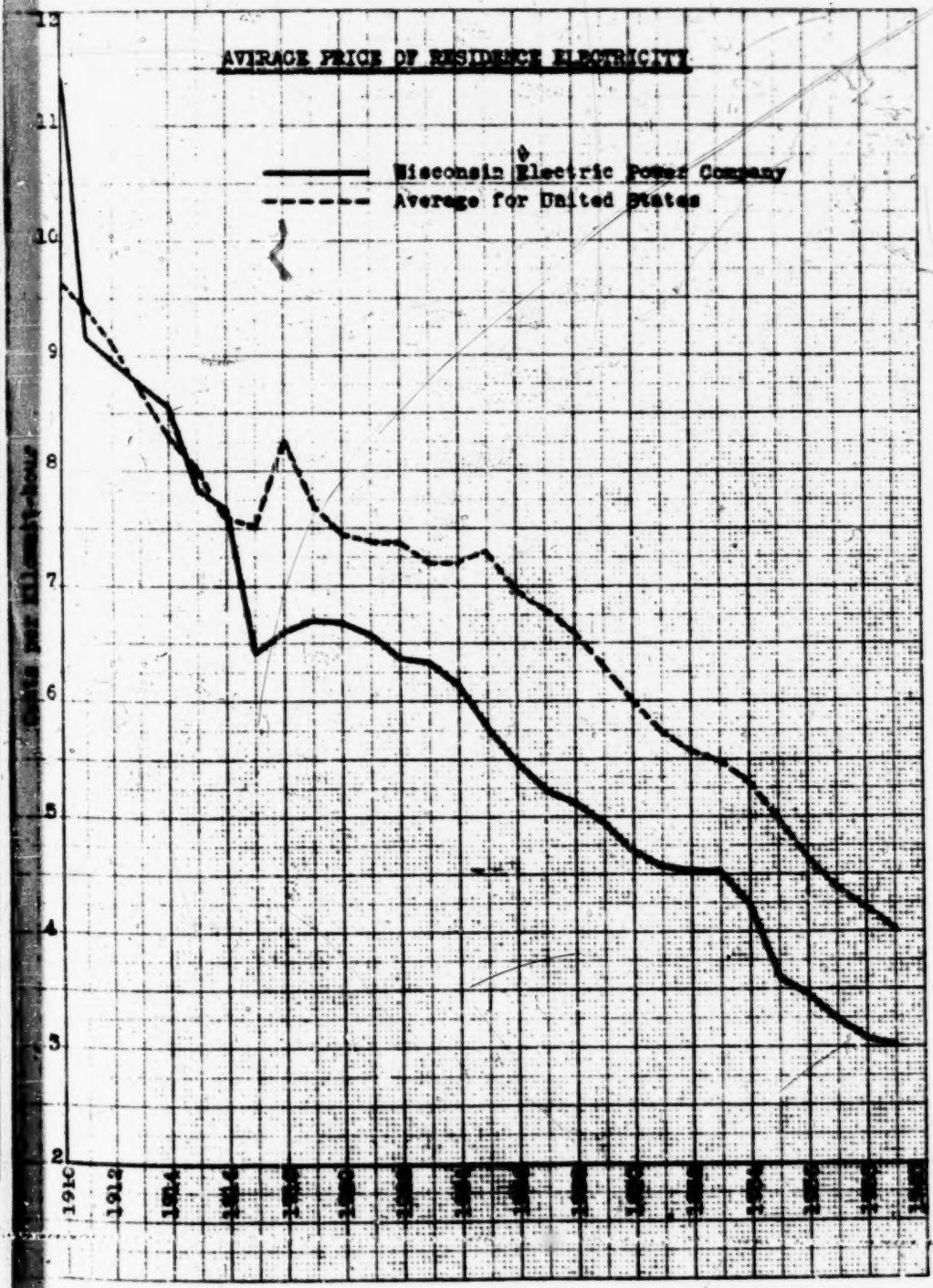
1. The above data include sales to other electric utilities.
2. The data for Wisconsin Electric Power Company for the years 1938 and 1939 include energy sold to the transportation department (since October 21, 1938 a transportation subsidiary) which prior to 1938 was treated as energy transferred to the transportation department.

Petitioners' Exhibit No. 35



Petitioners' Exhibit No. 36

Petitioners' Exhibit No. 37



Petitioners' Exhibit No. 38

RESIDENTIAL RATE REDUCTIONS UPON ACQUISITION OF LOCAL UTILITY SYSTEMS

Community	Net Bill for Monthly Consumption of 40 Kw-Hr.			
	Under Local Utility Rates At Time of Acquisition	Under Rate First Applied by Company After Acquisition		
		Net Bill	Saving to Customer	
			Amount	%
	$	$	$	
A. Utilities acquired by Wisconsin Electric Power Company				
Dousman	6.00	2.65	3.35	56
Honey Creek	4.86	2.51	2.35	48
New Butler	5.13	2.65	2.48	48
North Milwaukee	4.56	2.16	2.40	53
Port Washington	2.60	2.30	.30	12
B. Utilities acquired by Wisconsin Gas & Electric Company				
Allenton	8.00	2.74	5.26	66
Ashippun	6.00	2.74	3.26	54
Barton	3.30	2.68	.62	19
Bristol	10.25	2.74	7.51	73
Campbellsport	5.04	2.74	2.30	46
Cascade	5.10	3.13	1.97	39
Clyman	6.00	2.74	3.26	54
Eden	6.00	2.74	3.26	54
Fort Atkinson	3.60	2.68	.92	26
Grafton	4.13	2.91	1.22	30
Helensville	4.75	2.68	2.07	44
Iron Ridge	4.00	2.74	1.26	32
Lomira	4.83	2.74	2.09	43
Lowell	4.77	3.32	1.45	30
Menomonee Falls	5.05	2.16	2.89	57
Neosho	6.00	2.68	3.32	55
Reeseville	5.60	2.74	2.86	51
Rome	5.90	3.40	2.50	42
South Germantown	5.40	2.16	3.24	60
Sullivan	5.90	3.40	2.50	42
Theresa	4.00	2.74	1.26	32
Thiensville	4.90	2.16	2.74	56
Union Grove	6.00	2.74	3.26	54
Waukesha	4.27	2.76	1.51	35
West Bend	3.30	2.68	.62	19
Woodland	6.00	3.13	2.87	48

Petitioners' Exhibit No. 38

RESIDENTIAL RATE REDUCTIONS UPON ACQUISITION OF LOCAL UTILITY SYSTEMS

NET BILL FOR MONTHLY CONSUMPTION OF 40 KW-HR.

Community	Under Local Utility Rates At Time of Acquisition	Under Rate First Applied by Company After Acquisition		
		Net Bill	Saving to Customer	
			Amount	%
	$	$	$	
C. UTILITIES ACQUIRED BY WISCONSIN MICHIGAN POWER COMPANY				
Alpha, Michigan	3.60	2.94	.66	18
Amasa, Michigan	4.00	2.94	1.06	27
Aurora, Wisconsin	5.00	2.94	2.06	41
Bark River, Michigan	6.00	2.94	3.06	51
Carney, Michigan	6.00	2.94	3.06	51
Hermansville, Michigan	6.00	2.94	3.06	51
Loretto, Michigan	3.60	2.94	.66	18
Niagara, Wisconsin	3.60	2.94	.66	18
Powers, Michigan	6.00	2.94	3.06	51
Spalding, Michigan	6.00	2.94	3.06	51
Watersmeet, Michigan	5.70	2.94	2.76	48
Weyauwega, Wisconsin	4.40	2.62	1.78	40

Petitioners' Exhibit No. 39

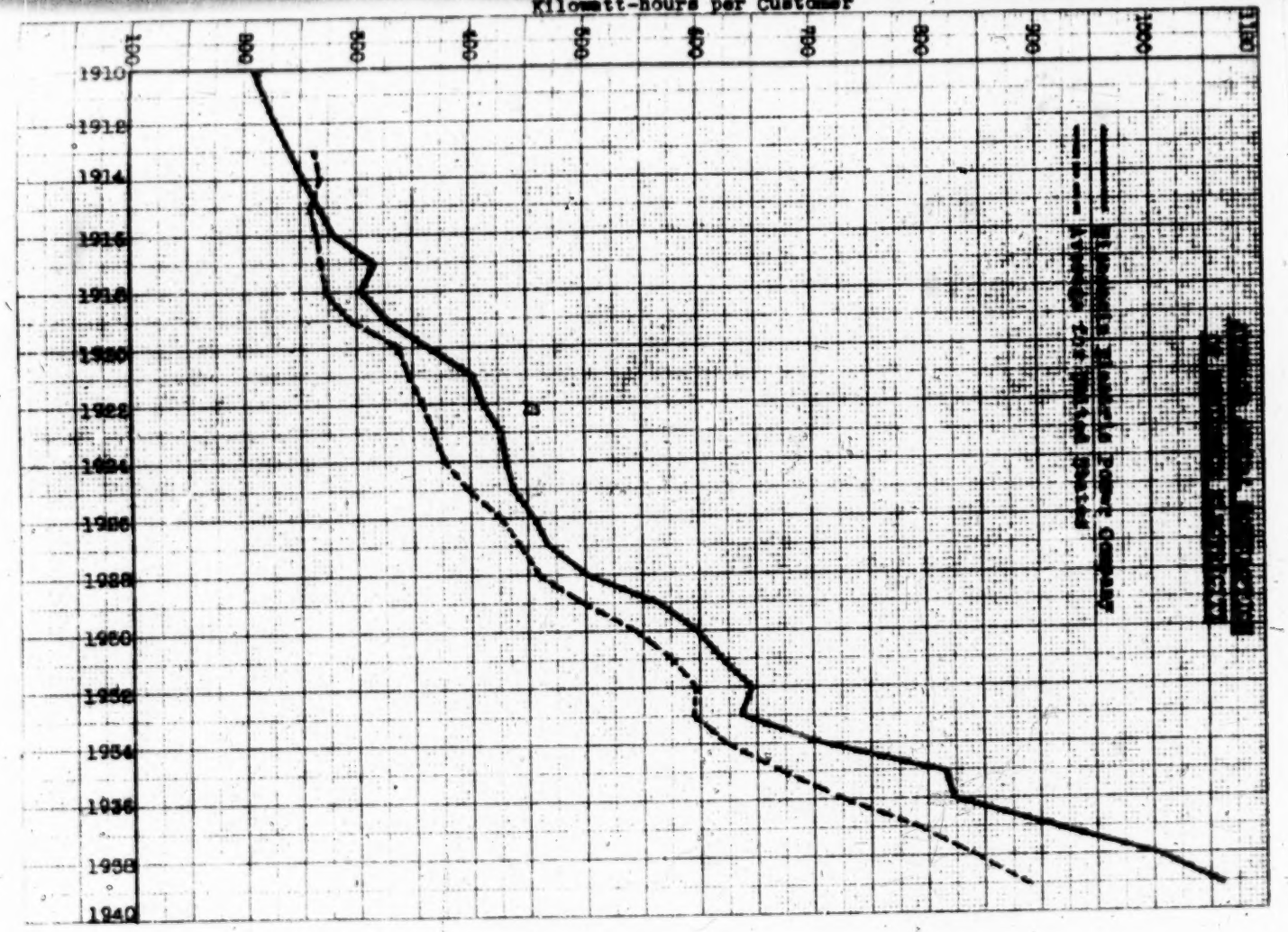
WISCONSIN ELECTRIC POWER COMPANY

AMOUNTS SAVED BY CUSTOMERS

UNDER "10 FOR 1" PLAN

Year	Residential	Rural	Commercial	Large Users	Municipal Secondary	Total
1935.....	$ 33,999.21	$ 850.29	$ 37,461.24	$ 3,880.28	$ —	$ 76,191.02
1936.....	447,967.78	20,210.81	237,929.42	34,285.29	7,646.40	748,039.70
1937.....	658,729.42	27,249.00	301,167.60	47,920.96	10,680.12	1,045,747.10
1938.....	728,029.59	32,008.07	310,957.94	52,384.21	17,112.44	1,140,492.25
1939.....	685,358.20	36,564.69	302,919.90	41,044.73	15,534.00	1,081.421.52
1940*.....	380,530.10	18,557.29	172,742.28	16,211.47	7,278.89	595,320.03
Total	$2,934,614.30	$135,440.15	$1,363,178.38	$195,726.94	$58,251.85	$4,687,211.62

*To June 30, 1940.


Kilowatt-hours per Customer
1910
1912
1914
1916
1918
1920
1922
1924
1926
1928
1930
1932
1934
1936
1938
1940

Petitioners' Exhibit No. 45

WISCONSIN ELECTRIC POWER COMPANY

(Formerly the Milwaukee Electric Railway and Light Company)

OUTSTANDING SECURITIES BY CLASSES AS AT DECEMBER 31, 1896-1939, INCLUSIVE AND AS AT JUNE 30, 1940

	Common Stock		Preferred Stock		Bonds		Notes		Total Securities Outstanding	
	Number of Issues	Par Value	Number of Issues	Par Value	Number of Issues	Par Value	Number of Issues	Par Value	Number of Issues	Par Value
June 30, 1940	1	$13,959,280	2	$30,660,600	1	$55,000,000	1	$13,250,000	5	$112,869,880
Dec. 31, 1939	1	21,000,000	2	32,660,600	1	55,000,000	1	13,250,000	5	121,910,600
" 1938	1	21,000,000	2	32,709,800	1	55,000,000	1	14,500,000	5	123,209,800
" 1937	1	21,000,000	2	23,489,400	2	59,609,500	—	—	5	104,098,900
" 1936	1	21,000,000	2	23,485,400	2	59,785,500	—	—	5	104,270,900
" 1935	1	21,000,000	2	22,919,900	3	62,285,500	—	—	6	106,205,400
" 1934	1	21,000,000	2	22,919,900	3	62,680,000	—	—	6	106,599,900
" 1933	1	21,000,000	2	22,919,900	3	63,149,000	—	—	6	107,068,900
" 1932	1	21,000,000	2	23,060,800	3	63,618,500	—	—	6	107,679,300
" 1931	1	21,000,000	2	23,659,400	3	64,089,500	—	—	6	108,748,900
" 1930	1	21,000,000	3	24,545,600	4	57,863,500	2	1,100,000	10	104,509,100
" 1929	1	21,000,000	3	21,840,000	5	59,418,500	2	1,097,200	11	103,355,700
" 1928	1	21,000,000	3	21,043,200	6	44,413,500	2	1,099,900	12	87,556,600
" 1927	1	21,000,000	3	19,999,500	5	42,680,500	2	1,099,300	11	84,779,300
" 1926	1	19,000,000	3	14,815,700	4	40,179,000	2	1,097,300	10	75,092,000
" 1925	1	11,250,000	3	14,356,000	6	45,972,000	2	1,064,100	12	72,642,100
" 1924	1	11,250,000	3	12,684,300	6	46,184,300	2	988,100	12	71,106,700
" 1923	1	11,250,000	3	11,851,600	6	46,284,500	2	522,500	12	69,908,600
" 1922	1	11,250,000	3	8,504,800	5	36,547,000	3	5,022,000	12	61,323,800
" 1921	1	9,850,000	2	6,073,600	5	28,997,000	4	7,281,000	12	52,201,600
" 1920	1	9,850,000	1	4,500,000	4	24,047,000	4	7,540,000	10	45,937,000
" 1919	1	9,850,000	1	4,500,000	4	27,047,000	3	6,600,000	9	47,997,000
" 1918	1	9,850,000	1	4,500,000	3	22,047,000	3	3,819,350	8	40,216,350
" 1917	1	9,850,000	1	4,500,000	3	19,046,000	1	1,300,000	6	34,696,000
" 1916	1	9,850,000	1	4,500,000	3	19,046,000	1	1,150,000	6	34,546,000
" 1915	1	9,850,000	1	4,500,000	3	18,533,000	—	—	5	32,883,000
" 1914	1	9,850,000	1	4,500,000	3	18,533,000	—	—	5	32,883,000
" 1913	1	9,850,000	1	4,500,000	3	18,533,000	—	—	5	32,883,000
" 1912	1	9,850,000	1	4,500,000	3	16,849,000	—	—	5	31,199,000
" 1911	1	9,000,000	1	4,500,000	2	13,228,000	—	—	4	26,728,000
" 1910	1	9,000,000	1	4,500,000	2	13,228,000	—	—	4	26,728,000
" 1909	1	9,000,000	1	4,500,000	2	13,228,000	—	—	4	26,728,000
" 1908	1	9,000,000	1	4,500,000	3	12,832,000	—	—	5	26,332,000
" 1907	1	9,000,000	1	4,500,000	4	12,000,000	—	—	6	25,500,000
" 1906	1	9,000,000	1	4,500,000	4	11,000,000	—	—	6	24,500,000
" 1905	1	9,000,000	1	4,500,000	3	8,000,000	1	198,405	6	21,698,405
" 1904	1	9,000,000	1	4,500,000	3	8,000,000	1	198,405	6	21,698,405
" 1903	1	8,013,500	1	4,500,000	3	8,000,000	1	198,405	6	20,711,905
" 1902	1	7,000,000	1	4,500,000	3	8,000,000	1	198,405	6	19,698,405
" 1901	1	6,500,000	1	4,500,000	3	8,000,000	1	278,405	6	19,278,405
" 1900	1	3,500,000	1	3,986,200	3	8,000,000	1	278,405	6	15,764,605
" 1899	1	3,500,000	1	3,500,000	3	8,000,000	1	298,405	6	15,298,405
" 1898	1	3,500,000	1	3,500,000	3	7,803,000	1	100,000	6	14,903,000
" 1897	1	3,500,000	1	3,500,000	3	7,100,000	1	105,000	6	14,205,000
" 1896	1	3,500,000	1	3,500,000	3	7,000,000	—	—	5	14,000,000

Petitioners' Exhibit No. 45

WISCONSIN ELECTRIC POWER COMPANY

(Formerly the Milwaukee Electric Railway and Light Company)

BONDS OUTSTANDING AS AT DECEMBER 31, 1896-1939, INCLUSIVE AND AS AT JUNE 30, 1940

	First Mtge. Bonds 3½% Series due 1968	Refunding & First Mtge. Bonds, 5%, Series B due 1961	First Mtge. Bonds 5% Series due 1967	First Mtge. Bonds 5% Series due 1971	Refunding & Extension Mtge. 4½% Bonds due 1931	Mil. Nor. Ry. Co. First Mtge. Bonds due 1931	General & Refunding Mortgage 5% Bonds Series "A" due 1951	M. L. H. & T. Co. First Mortgage 5% Bonds due 1929	First Consolidated Mortgage 5% Bonds, due 1926
June 30, 1940	$55,000,000	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —
Dec. 31, 1939	55,000,000	—	—	—	—	—	—	—	—
" 1938	55,000,000	—	—	—	—	—	—	—	—
" 1937	—	44,609,500	—	15,000,000	—	—	—	—	—
" 1936	—	44,785,500	—	15,000,000	—	—	—	—	—
" 1935	—	44,785,500	2,500,000	15,000,000	—	—	—	—	—
" 1934	—	45,255,000	2,500,000	14,925,000	—	—	—	—	—
" 1933	—	45,724,000	2,500,000	14,925,000	—	—	—	—	—
" 1932	—	46,193,500	2,500,000	14,925,000	—	—	—	—	—
" 1931	—	46,664,500	2,500,000	14,925,000	—	—	—	—	—
" 1930	—	46,898,500	2,500,000	—	6,728,000	1,737,000	—	—	—
" 1929	—	46,546,500	2,500,000	—	6,728,000	1,737,000	1,907,000	—	—
" 1928	—	26,409,500	2,500,000	—	6,728,000	1,737,000	2,039,000	5,000,000	—
" 1927	—	25,124,500	2,500,000	—	6,728,000	—	3,328,000	5,000,000	—
" 1926	—	22,632,000	—	—	6,728,000	—	5,819,000	5,000,000	—
" 1925	—	12,125,000	—	—	6,728,000	—	5,819,000	5,000,000	6,500,000
" 1924	—	12,237,300	—	—	6,728,000	—	5,819,000	5,000,000	6,500,000
" 1923	—	12,237,500	—	—	6,728,000	—	5,819,000	5,000,000	6,500,000
" 1922	—	12,500,000	—	—	6,728,000	—	5,819,000	5,000,000	6,500,000
" 1921	—	—	—	—	6,728,000	—	5,819,000	5,000,000	6,500,000
" 1920	—	—	—	—	6,728,000	—	5,819,000	5,000,000	6,500,000
" 1919	—	—	—	—	6,728,000	—	8,819,000	5,000,000	6,500,000
" 1918	—	—	—	—	6,728,000	—	8,819,000	—	6,500,000
" 1917	—	—	—	—	6,728,000	—	5,818,000	—	6,500,000
" 1916	—	—	—	—	6,728,000	—	5,818,000	—	6,500,000
" 1915	—	—	—	—	6,728,000	—	5,305,000	—	6,500,000
" 1914	—	—	—	—	6,728,000	—	5,305,000	—	6,500,000
" 1913	—	—	—	—	6,728,000	—	5,305,000	—	6,500,000
" 1912	—	—	—	—	6,728,000	—	3,621,000	—	6,500,000
" 1911	—	—	—	—	6,728,000	—	—	—	6,500,000
" 1910	—	—	—	—	6,728,000	—	—	—	6,500,000
" 1909	—	—	—	—	6,728,000	—	—	—	6,500,000
" 1908	—	—	—	—	5,832,000	—	—	—	6,500,000
" 1907	—	—	—	—	4,000,000	—	—	—	6,500,000
" 1906	—	—	—	—	3,000,000	—	—	—	6,500,000
" 1905	—	—	—	—	—	—	—	—	6,500,000
" 1904	—	—	—	—	—	—	—	—	6,500,000
" 1903	—	—	—	—	—	—	—	—	6,500,000
" 1902	—	—	—	—	—	—	—	—	6,500,000
" 1901	—	—	—	—	—	—	—	—	6,500,000
" 1900	—	—	—	—	—	—	—	—	6,500,000
" 1899	—	—	—	—	—	—	—	—	6,500,000
" 1898	—	—	—	—	—	—	—	—	6,303,000
" 1897	—	—	—	—	—	—	—	—	5,600,000
" 1896	—	—	—	—	—	—	—	—	5,500,000

Refunding & First Mtge. Bonds, 6% Series "C", due 1953	Refunding & First Mtge. Bonds, 7½% due 1940	West Side R. R. Co. 5% Bonds due 1909	Milwaukee City R. R. Co. First Mtge. Bonds	Total Outstanding Bonds
$ —	$ —	$ —	$ —	$55,000,000
—	—	—	—	55,000,000
—	—	—	—	55,000,000
—	—	—	—	59,609,500
—	—	—	—	59,785,500
—	—	—	—	62,285,500
—	—	—	—	62,680,000
—	—	—	—	63,149,000
—	—	—	—	63,618,500
—	—	—	—	64,089,500
—	—	—	—	57,863,500
—	—	—	—	59,418,500
—	—	—	—	44,413,500
—	—	—	—	42,680,500
—	—	—	—	40,179,000
9,800,000	—	—	—	45,972,000
9,900,000	—	—	—	46,184,300
10,000,000	—	—	—	46,284,500
—	—	—	—	36,547,000
—	4,950,000	—	—	28,997,000
—	—	—	—	24,047,000
—	—	—	—	27,047,000
—	—	—	—	22,047,000
—	—	—	—	19,046,000
—	—	—	—	19,046,000
—	—	—	—	18,533,000
—	—	—	—	18,533,000
—	—	—	—	18,533,000
—	—	—	—	16,849,000
—	—	—	—	13,228,000
—	—	—	—	13,228,000
—	—	—	—	13,228,000
—	—	500,000	—	12,832,000
—	—	500,000	1,000,000	12,000,000
—	—	500,000	1,000,000	11,000,000
—	—	500,000	1,000,000	8,000,000
—	—	500,000	1,000,000	8,000,000
—	—	500,000	1,000,000	8,000,000
—	—	500,000	1,000,000	8,000,000
—	—	500,000	1,000,000	8,000,000
—	—	500,000	1,000,000	8,000,000
—	—	500,000	1,000,000	8,000,000
—	—	500,000	1,000,000	7,803,000
—	—	500,000	1,000,000	7,100,000
—	—	500,000	1,000,000	7,000,000

Petitioners' Exhibit No. 45

WISCONSIN ELECTRIC POWER COMPANY

(Formerly the Milwaukee Electric Railway and Light Company)

NOTES OUTSTANDING AS AT DECEMBER 31, 1896-1939, INCLUSIVE AND AS AT JUNE 30, 1940

	Unsecured Promissory Notes, due Serially to 1948	10 Year Gold Notes 6½%	5 Year Gold Notes 6%	Serial Gold Notes 5% Due 1926	5 Year Secured Notes 7% Due 1923	10 Year 8% Equipment Trust Certificate Due 1930	3 Year Secured Notes 7% Due 1923	2 Year Secured Notes 7% Due 1920	Mortgage Notes	Total Notes Outstanding
June 30, 1940	$13,250,000	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$13,250,000
Dec. 31, 1939	13,250,000	—	—	—	—	—	—	—	—	13,250,000
" 1938	14,500,000	—	—	—	—	—	—	—	—	14,500,000
" 1937	—	—	—	—	—	—	—	—	—	—
" 1936	—	—	—	—	—	—	—	—	—	—
" 1935	—	—	—	—	—	—	—	—	—	—
" 1934	—	—	—	—	—	—	—	—	—	—
" 1933	—	—	—	—	—	—	—	—	—	—
" 1932	—	—	—	—	—	—	—	—	—	—
" 1931	—	—	—	—	—	—	—	—	—	—
" 1930	—	1,000,000	100,000	—	—	—	—	—	—	1,100,000
" 1929	—	997,200	100,000	—	—	—	—	—	—	1,097,200
" 1928	—	1,000,000	99,900	—	—	—	—	—	—	1,099,900
" 1927	—	999,300	100,000	—	—	—	—	—	—	1,099,300
" 1926	—	997,300	100,000	—	—	—	—	—	—	1,097,300
" 1925	—	964,100	—	100,000	—	—	—	—	—	1,064,100
" 1924	—	738,100	—	250,000	—	—	—	—	—	988,100
" 1923	—	122,500	—	400,000	—	—	—	—	—	522,500
" 1922	—	—	—	550,000	3,600,000	872,000	—	—	—	5,022,000
" 1921	—	—	—	700,000	3,600,000	981,000	2,000,000	—	—	7,281,000
" 1920	—	—	—	850,000	3,600,000	1,090,000	2,000,000	—	—	7,540,000
" 1919	—	—	—	1,000,000	3,600,000	—	—	2,000,000	—	6,600,000
" 1918	—	—	—	1,150,000	669,350	—	—	2,000,000	—	3,819,350
" 1917	—	—	—	1,300,000	—	—	—	—	—	1,300,000
" 1916	—	—	—	1,150,000	—	—	—	—	—	1,150,000
" 1915	—	—	—	—	—	—	—	—	—	—
" 1914	—	—	—	—	—	—	—	—	—	—
" 1913	—	—	—	—	—	—	—	—	—	—
" 1912	—	—	—	—	—	—	—	—	—	—
" 1911	—	—	—	—	—	—	—	—	—	—
" 1910	—	—	—	—	—	—	—	—	—	—
" 1909	—	—	—	—	—	—	—	—	—	—
" 1908	—	—	—	—	—	—	—	—	—	—
" 1907	—	—	—	—	—	—	—	—	—	—
" 1906	—	—	—	—	—	—	—	—	—	—
" 1905	—	—	—	—	—	—	—	—	198,405	198,405
" 1904	—	—	—	—	—	—	—	—	198,405	198,405
" 1903	—	—	—	—	—	—	—	—	198,405	198,405
" 1902	—	—	—	—	—	—	—	—	198,405	198,405
" 1901	—	—	—	—	—	—	—	—	278,405	278,405
" 1900	—	—	—	—	—	—	—	—	278,405	278,405
" 1899	—	—	—	—	—	—	—	—	298,405	298,405
" 1898	—	—	—	—	—	—	—	—	100,000	100,000
" 1897	—	—	—	—	—	—	—	—	105,000	105,000
" 1896	—	—	—	—	—	—	—	—	—	—

Petitioners' Exhibit No. 45

WISCONSIN ELECTRIC POWER COMPANY

(Formerly the Milwaukee Electric Railway and Light Company)

CAPITAL STOCK OUTSTANDING AS AT DECEMBER 31, 1896-1939, INCLUSIVE, AND AS AT JUNE 30, 1940

		Preferred Stock					Total Capital Stock Outstanding
				Issue of 1921			
	Common Stock	Six Per Cent.	4¼% Series	6% Series	7% Series	8% Series	
June 30, 1940	$13,959,280	$ 4,450,800	$26,209,800	$ —	$ —	$ —	$44,619,880
Dec. 31, 1939	21,000,000	4,450,800	—	28,209,800	—	—	53,660,600
" 1938	21,000,000	4,500,000	—	28,209,800	—	—	53,709,800
" 1937	21,000,000	3,150,600	—	20,338,800	—	—	44,489,400
" 1936	21,000,000	3,150,600	—	20,334,800	—	—	44,485,400
" 1935	21,000,000	3,150,600	—	19,769,300	—	—	43,919,900
" 1934	21,000,000	3,150,600	—	19,769,300	—	—	43,919,900
" 1933	21,000,000	3,150,600	—	19,769,300	—	—	43,919,900
" 1932	21,000,000	3,265,200	—	19,795,600	—	—	44,060,800
" 1931	21,000,000	3,635,000	—	20,024,400	—	—	44,659,400
" 1930	21,000,000	3,708,700	—	18,080,900	2,756,000	—	45,545,600
" 1929	21,000,000	3,709,700	—	15,289,200	2,841,100	—	42,840,000
" 1928	21,000,000	4,191,200	—	13,827,400	3,024,600	—	42,043,200
" 1927	21,000,000	4,276,500	—	5,378,000	10,345,000	—	40,999,500
" 1926	19,000,000	4,350,000	—	131,700	10,334,000	—	33,815,700
" 1925	11,250,000	4,500,000	—	—	6,896,900	2,959,100	25,606,000
" 1924	11,250,000	4,500,000	—	—	5,200,200	2,984,100	23,934,300
" 1923	11,250,000	4,486,000	—	—	4,382,300	2,983,300	23,101,600
" 1922	11,250,000	4,500,000	—	—	1,267,500	2,737,300	19,754,800
" 1921	9,850,000	4,500,000	—	—	—	1,573,600	15,923,600
" 1920	9,850,000	4,500,000	—	—	—	—	14,350,000
" 1919	9,850,000	4,500,000	—	—	—	—	14,350,000
" 1918	9,850,000	4,500,000	—	—	—	—	14,350,000
" 1917	9,850,000	4,500,000	—	—	—	—	14,350,000
" 1916	9,850,000	4,500,000	—	—	—	—	14,350,000
" 1915	9,850,000	4,500,000	—	—	—	—	14,350,000
" 1914	9,850,000	4,500,000	—	—	—	—	14,350,000
" 1913	9,850,000	4,500,000	—	—	—	—	14,350,000
" 1912	9,850,000	4,500,000	—	—	—	—	14,350,000
" 1911	9,000,000	4,500,000	—	—	—	—	13,500,000
" 1910	9,000,000	4,500,000	—	—	—	—	13,500,000
" 1909	9,000,000	4,500,000	—	—	—	—	13,500,000
" 1908	9,000,000	4,500,000	—	—	—	—	13,500,000
" 1907	9,000,000	4,500,000	—	—	—	—	13,500,000
" 1906	9,000,000	4,500,000	—	—	—	—	13,500,000
" 1905	9,000,000	4,500,000	—	—	—	—	13,500,000
" 1904	9,000,000	4,500,000	—	—	—	—	13,500,000
" 1903	8,013,500	4,500,000	—	—	—	—	12,513,500
" 1902	7,000,000	4,500,000	—	—	—	—	11,500,000
" 1901	6,500,000	4,500,000	—	—	—	—	11,000,000
" 1900	3,500,000	3,986,200	—	—	—	—	7,486,200
" 1899	3,500,000	3,500,000	—	—	—	—	7,000,000
" 1898	3,500,000	3,500,000	—	—	—	—	7,000,000
" 1897	3,500,000	3,500,000	—	—	—	—	7,000,000
" 1896	3,500,000	3,500,000	—	—	—	—	7,000,000

Petitioners' Exhibit No. 47

WISCONSIN GAS & ELECTRIC COMPANY

SECURITIES OUTSTANDING BY CLASSES AS AT DECEMBER 31, 1902-1939, INCLUSIVE, AND AS AT JUNE 30, 1940

	Common Stock		Preferred Stock		Bonds		Notes		Total Securities Outstanding	
	Number of Issues	Par Value	Number of Issues	Par Value	Number of Issues	Par Value	Number of Issues	Par Value	Number of Issues	Par Value
June 30, 1940	1	$6,000,000	1	$3,342,500	2	$10,769,000	1	$1,200,000	5	$21,311,500
Dec. 31, 1939	1	6,000,000	1	3,342,500	2	10,769,000	1	1,500,000	5	21,611,500
" 1938	1	6,000,000	1	4,648,000	2	10,769,000	—	—	4	21,417,000
" 1937	1	6,000,000	1	4,648,000	2	10,769,000	—	—	4	21,417,000
" 1936	1	6,000,000	1	4,648,000	2	10,769,000	—	—	4	21,417,000
" 1935	1	6,000,000	1	4,648,000	2	10,169,000	—	—	4	20,817,000
" 1934	1	6,000,000	1	4,648,000	2	10,169,000	—	—	4	20,817 000
" 1933	1	6,000,000	1	4,648,000	2	10,169,000	—	—	4	20,817,000
" 1932	1	6,000,000	1	4,658,300	2	10,169,000	—	—	4	20,827,300
" 1931	1	6,000,000	1	4,469,900	2	10,170,000	—	—	4	20,639,900
" 1930	1	6,000,000	2	4,200,200	2	10,170,000	—	—	5	20,370,200
" 1929	1	6,000,000	2	4,328,100	2	10,174,900	—	—	5	20,503,000
" 1928	1	6,000,000	2	4,455,900	3	5,472,500	—	—	6	15,928,400
" 1927	1	6,000,000	2	4,451,900	2	5,351,500	—	—	5	15,803,400
" 1926	1	4,000,000	2	4,291,200	2	5,351,800	2	110,150	7	13,753,150
" 1925	1	2,615,000	1	2,883,300	4	5,395,700	2	120,200	8	11,014,200
" 1924	1	2,615,000	1	2,450,200	3	5,369,300	5	1,415,150	10	11,849,650
" 1923	1	2,500,000	1	2,355,400	3	3,996,000	5	1,475,650	10	10,327,050
" 1922	1	2,000,000	1	1,910,200	2	2,989,500	4	1,284,900	8	8,184,600
" 1921	1	1,747,500	1	1,498,100	1	2,971,300	4	1,265,250	7	7,482,150
" 1920	1	1,747,500	1	1,056,300	2	3,072,700	4	1,287,550	8	7,164,050
" 1919	1	1,747,500	1	500,000	2	3,083,500	1	298,900	5	5,629,900
" 1918	1	1,747,500	1	500,000	2	3,089,100	1	300,000	5	5,636,600
" 1917	1	1,747,500	1	376,700	2	3,080,200	—	—	4	5,204,400
" 1916	1	1,657,500	1	200,000	2	2,752,100	—	—	4	4,609,600
" 1915	1	1,657,500	1	200,000	2	2,500,000	—	—	4	4,357,500
" 1914	1	1,000,000	1	200,000	1	2,000,000	—	—	3	3,200,000
" 1913	1	1,000,000	1	200,000	1	2,000,000	—	—	3	3,200,000
" 1912	1	1,000,000	1	200,000	1	2,000,000	—	—	3	3,200,000
" 1911	1	500,000	—	—	1	1,000,000	—	—	2	1,500,000
" 1910	1	500,000	—	—	1	1,000,000	—	—	2	1,500,000
" 1909	1	500,000	—	—	1	1,000,000	—	—	2	1,500,000
" 1908	1	500,000	—	—	1	850,000	—	—	2	1,350,000
" 1907	1	500,000	—	—	1	700,000	—	—	2	1,200,000
" 1906	1	500,000	—	—	1	700,000	—	—	2	1,200,000
" 1905	1	500,000	—	—	1	700,000	—	—	2	1,200,000
" 1904	1	500,000	—	—	1	700,000	—	—	2	1,200,000
" 1903	1	500,000	—	—	1	700,000	—	—	2	1,200,000
" 1902	1	500,000	—	—	1	700,000	—	—	2	1,200,000

Petitioners' Exhibit No. 47

WISCONSIN GAS & ELECTRIC COMPANY

MORTGAGE BONDS OUTSTANDING AS AT DECEMBER 31, 1902-1939, INCLUSIVE AND AS AT JUNE 30, 1940

	30 Year 1st Mortgage Bonds 3½% Series Due 4/1/1966	First Mortgage Bonds Series A 5% Due 6/1/1952	Waukesha Gas & Electric Co. First Mortgage Bonds 50 Yr. Series 5% Due 1/1/1959	Badger Public Service Co. First Mortgage Gold Bonds 6% Due 7/1/1939	Bark River Electric Light & Power Co. First Mortgage 6% Bonds Due 10/1/1936	Watertown Gas & Electric Co. First Mortgage 5% Gold Bonds Due 6/1/1930	Joseph Rehl Racine, 6% Real Estate Trustee Mortgage Due 3/1/1929	30 Year Consolidated Mtge. 5% Gold Bonds Due 1/2/1930	Total Bonds Outstanding
June 30, 1940	$10,500,000	$ —	$269,000	$ —	$ —	$ —	$ —	$ —	$10,769,000
Dec. 31, 1939	10,500,000	—	269,000	—	—	—	—	—	10,769,000
" 1938	10,500,000	—	269,000	—	—	—	—	—	10,769,000
" 1937	10,500,000	—	269,000	—	—	—	—	—	10,769,000
" 1936	10,500,000	—	269,000	—	—	—	—	—	10,769,000
" 1935	—	9,900,000	269,000	—	—	—	—	—	10,169,000
" 1934	—	9,900,000	269,000	—	—	—	—	—	10,169,000
" 1933	—	9,900,000	269,000	—	—	—	—	—	10,169,000
" 1932	—	9,900,000	269,000	—	—	—	—	—	10,169,000
" 1931	—	9,900,000	270,000	—	—	—	—	—	10,170,000
" 1930	—	9,900,000	270,000	—	—	—	—	—	10,170,000
" 1929	—	9,894,400	280,500	—	—	—	—	—	10,174,900
" 1928	—	4,898,500	476,000	98,000	—	—	—	—	5,472,500
" 1927	—	4,856,500	495,000	—	—	—	—	—	5,351,500
" 1926	—	4,856,800	495,000	—	—	—	—	—	5,351,800
" 1925	—	4,857,200	495,000	—	10,000	—	33,500	—	5,395,700
" 1924	—	4,760,300	599,000	—	10,000	—	—	—	5,369,300
" 1923	—	3,386,000	600,000	—	10,000	—	—	—	3,996,000
" 1922	—	2,979,500	—	—	10,000	—	—	—	2,989,500
" 1921	—	2,971,300	—	—	—	—	—	—	2,971,300
" 1920	—	2,972,700	—	—	—	100,000	—	—	3,072,700
" 1919	—	2,973,500	—	—	—	110,000	—	—	3,083,500
" 1918	—	2,969,100	—	—	—	120,000	—	—	3,089,100
" 1917	—	2,950,200	—	—	—	130,000	—	—	3,080,200
" 1916	—	2,612,100	—	—	—	140,000	—	—	2,752,100
" 1915	—	2,350,000	—	—	—	150,000	—	—	2,500,000
" 1914	—	2,000,000	—	—	—	—	—	—	2,000,000
" 1913	—	2,000,000	—	—	—	—	—	—	2,000,000
" 1912	—	2,000,000	—	—	—	—	—	—	2,000,000
" 1911	—	—	—	—	—	—	—	1,000,000	1,000,000
" 1910	—	—	—	—	—	—	—	1,000,000	1,000,000
" 1909	—	—	—	—	—	—	—	1,000,000	1,000,000
" 1908	—	—	—	—	—	—	—	850,000	850,000
" 1907	—	—	—	—	—	—	—	700,000	700,000
" 1906	—	—	—	—	—	—	—	700,000	700,000
" 1905	—	—	—	—	—	—	—	700,000	700,000
" 1904	—	—	—	—	—	—	—	700,000	700,000
" 1903	—	—	—	—	—	—	—	700,000	700,000
" 1902	—	—	—	—	—	—	—	700,000	700,000

Petitioners' Exhibit No. 47

WISCONSIN GAS & ELECTRIC COMPANY

NOTES OUTSTANDING AS AT DECEMBER 31, 1918-1939, INCLUSIVE AND AS AT JUNE 30, 1940

Date	2¼% Unsecured Promissory Notes Due Serially to 1946	6%-10 Year Gold Notes Series D Due 1933	7%-10 Year Gold Notes Series C Due 1930	7%-5 Year Gold Notes Series C Due 1925	7%-5 Year Gold Notes Series B Due 1925	6¼%-5 Year Secured Gold Notes Series A-1 Due 1923	Waukesha Gas & Electric Company 6% Serial Notes	Total Notes Outstanding
June 30, 1940	$1,200,000	$ —	$ —	$ —	$ —	$ —	$ —	$1,200,000
Dec. 31, 1939	1,500,000	—	—	—	—	—	—	1,500,000
" 1938	—	—	—	—	—	—	—	—
" 1937	—	—	—	—	—	—	—	—
" 1936	—	—	—	—	—	—	—	—
" 1935	—	—	—	—	—	—	—	—
" 1934	—	—	—	—	—	—	—	—
" 1933	—	—	—	—	—	—	—	—
" 1932	—	—	—	—	—	—	—	—
" 1931	—	—	—	—	—	—	—	—
" 1930	—	—	—	—	—	—	—	—
" 1929	—	—	—	—	—	—	—	—
" 1928	—	—	—	—	—	—	—	—
" 1927	—	—	—	—	—	—	—	—
" 1926	—	27,600	82,550	—	—	—	—	110,150
" 1925	—	29,700	90,500	—	—	—	—	120,200
" 1924	—	72,000	81,700	408,000	478,450	—	375,000	1,415,150
" 1923	—	86,800	91,250	408,000	489,600	—	400,000	1,475,650
" 1922	—	—	92,000	408,000	485,900	300,000	—	1,284,900
" 1921	—	—	92,000	408,000	465,250	300,000	—	1,265,250
" 1920	—	—	87,850	403,450	500,000	296,250	—	1,287,550
" 1919	—	—	—	—	—	298,900	—	298,900
" 1918	—	—	—	—	—	300,000	—	300,000

Petitioners' Exhibit No. 47

WISCONSIN GAS & ELECTRIC COMPANY

CAPITAL STOCK OUTSTANDING AS AT DECEMBER 31, 1902-1939, INCLUSIVE, AND AS AT JUNE 30, 1940

		Preferred Stock						
	Common Stock	4½% Series Cumulative Non-Participating	6% Series C Cumulative Non-Participating	6½% Series B Cumulative Non-Participating	7% Series A Cumulative Non-Participating	7% Non-Cumulative Participating	6% Cumulative Non-Participating	Total Capital Stock
June 30, 1940	$6,000,000	$3,342,500	$ —	$ —	$ —	$ —	$ —	$ 9,342,500
Dec. 31, 1939	6,000,000	3,342,500	—	—	—	—	—	9,342,500
" 1938	6,000,000	—	4,648,000	—	—	—	—	10,648,000
" 1937	6,000,000	—	4,648,000	—	—	—	—	10,648,000
" 1936	6,000,000	—	4,648,000	—	—	—	—	10,648,000
" 1935	6,000,000	—	4,648,000	—	—	—	—	10,648,000
" 1934	6,000,000	—	4,648,000	—	—	—	—	10,648,000
" 1933	6,000,000	—	4,648,000	—	—	—	—	10,648,000
" 1932	6,000,000	—	4,658,300	—	—	—	—	10,658,300
" 1931	6,000,000	—	4,469,900	—	—	—	—	10,469,900
" 1930	6,000,000	—	—	1,323,600	2,876,600	—	—	10,200,200
" 1929	6,000,000	—	—	1,387,300	2,940,800	—	—	10,328,100
" 1928	6,000,000	—	—	1,470,100	2,985,800	—	—	10,455,900
" 1927	6,000,000	—	—	1,463,200	2,988,700	—	—	10,451,900
" 1926	4,000,000	—	—	1,355,300	2,935,900	—	—	8,291,200
" 1925	2,615,000	—	—	—	2,883,300	—	—	5,498,300
" 1924	2,615,000	—	—	—	—	2,450,200	—	5,065,200
" 1923	2,500,000	—	—	—	—	2,355,400	—	4,855,400
" 1922	2,000,000	—	—	—	—	1,910,200	—	3,910,200
" 1921	1,747,500	—	—	—	—	1,498,100	—	3,245,600
" 1920	1,747,500	—	—	—	—	1,056,300	—	2,803,800
" 1919	1,747,500	—	—	—	—	500,000	—	2,247,500
" 1918	1,747,500	—	—	—	—	500,000	—	2,247,500
" 1917	1,747,500	—	—	—	—	376,700	—	2,124,200
" 1916	1,657,500	—	—	—	—	—	200,000	1,857,500
" 1915	1,657,500	—	—	—	—	—	200,000	1,857,500
" 1914	1,000,000	—	—	—	—	—	200,000	1,200,000
" 1913	1,000,000	—	—	—	—	—	200,000	1,200,000
" 1912	1,000,000	—	—	—	—	—	200,000	1,200,000
" 1911	500,000	—	—	—	—	—	—	500,000
" 1910	500,000	—	—	—	—	—	—	500,000
" 1909	500,000	—	—	—	—	—	—	500,000
" 1908	500,000	—	—	—	—	—	—	500,000
" 1907	500,000	—	—	—	—	—	—	500,000
" 1906	500,000	—	—	—	—	—	—	500,000
" 1905	500,000	—	—	—	—	—	—	500,000
" 1904	500,000	—	—	—	—	—	—	500,000
" 1903	500,000	—	—	—	—	—	—	500,000
" 1902	500,000	—	—	—	—	—	—	500,000

Petitioners' Exhibit No. 49

WISCONSIN MICHIGAN POWER COMPANY

SECURITIES OUTSTANDING BY CLASSES AS AT DECEMBER 31, 1911-1939, INCLUSIVE, AND AS AT JUNE 30, 1940

	Common Stock		Preffered Stock		Bonds		Notes		Total Securities Outstanding	
	Number of Issues	Par Value	Number of Issues	Par Value	Number of Issues	Par Value	Number of Issues	Par Value	Number of Issues	Par Value
June 30, 1940	1	$5,425,000	1	$4,000,000	1	$12,500,000	1	$620,000	4	$22,545,000
Dec. 31, 1939	1	5,425,000	1	4,000,000	1	12,500,000	1	620,000	4	22,545,000
" 1938	1	5,225,000	1	3,734,300	1	12,500,000	1	560,000	4	22,019,300
" 1937	1	5,225,000	1	3,734,300	1	12,500,000	1	700,000	4	22,159,300
" 1936	1	5,225,000	1	3,734,300	1	10,500,000	—	—	3	19,459,300
" 1935	1	5,225,000	1	3,734,300	2	10,000,000	—	—	4	18,959,300
" 1934	1	5,225,000	1	3,734,300	2	10,000,000	1	50,000	5	19,009,300
" 1933	1	5,225,000	1	3,734,300	2	10,000,000	—	—	4	18,959,300
" 1932	1	5,225,000	1	3,743,700	2	10,000,000	—	—	4	18,968,700
" 1931	1	5,225,000	1	3,754,400	2	10,000,000	—	—	4	18,979,400
" 1930	1	5,225,000	1	2,948,200	3	8,000,000	1	50,000	6	16,223,200
" 1929	1	5,225,000	1	2,208,600	3	8,000,000	1	100,000	6	15,533,600
" 1928	1	5,225,000	1	1,578,400	3	8,000,000	1	150,000	6	14,953,400
" 1927	1	5,225,000	1	1,275,000	3	8,000,000	1	200,000	6	14,700,000
" 1926	1	1,200,000	1	1,650,000	—	—	1	250,000	3	3,100,000
" 1925	1	1,200,000	1	1,650,000	1	538,000	1	300,000	4	3,688,000
" 1924	1	1,200,000	1	1,650,000	1	604,000	1	300,000	4	3,754,000
" 1923	1	1,200,000	1	1,552,700	1	660,000	1	300,000	4	3,712,700
" 1922	1	1,000,000	1	1,287,450	1	716,000	1	300,000	4	3,303,450
" 1921	1	1,000,000	1	1,123,341	1	772,000	1	300,000	4	3,195,341
" 1920	1	1,000,000	1	1,049,000	1	520,000	—	—	3	2,569,000
" 1919	1	925,000	1	823,550	1	561,000	—	—	3	2,309,550
" 1918	1	925,000	1	585,130	1	524,000	—	—	3	2,034,130
" 1917	1	924,000	2	350,230	1	358,500	—	—	4	1,632,730
" 1916	1	750,000	1	390,000	1	380,500	—	—	3	1,520,500
" 1915	1	750,000	1	372,550	1	375,000	—	—	3	1,497.550
" 1914	1	750,000	1	215,000	1	375,000	—	—	3	1,340,000
" 1913	1	750,000	1	140,000	1	375,000	—	—	3	1,265,000
" 1912	1	750,000	1	100,000	—	—	—	—	2	850,000
" 1911	1	750,000	—	—	—	—	—	—	1	750,000

Petitioners' Exhibit No. 49

WISCONSIN MICHIGAN POWER COMPANY

MORTGAGE BONDS OUTSTANDING AS AT DECEMBER 31, 1911-1939, INCLUSIVE, AND AS AT JUNE 30, 1940

	First Mortgage Bonds 3¼% Series Due 1961	First Mortgage Bonds 4½% Series Due 1957	First Mortgage Bonds 5% Series Due 1961	W. T. L. H. & P. Co. 5% First Mortgage Gold Bonds	W. T. L. H. & P. Co. 7½% First Mortgage Gold Bonds	First Mortgage 6% Serial Gold Bonds	Total Mortgage Bonds Outstanding
June 30, 1940	$12,500,000	$ —	$ —	$ —	$ —	$ —	$12,500,000
Dec. 31, 1939	12,500,000	—	—	—	—	—	12,500,000
" 1938	12,500,000	—	—	—	—	—	12,500,000
" 1937	12,500,000	—	—	—	—	—	12,500,000
" 1936	10,500,000	—	—	—	—	—	10,500,000
" 1935	—	5,000,000	5,000,000	—	—	—	10,000,000
" 1934	—	5,000,000	5,000,000	—	—	—	10,000,000
" 1933	—	5,000,000	5,000,000	—	—	—	10,000,000
" 1932	—	5,000,000	5,000,000	—	—	—	10,000,000
" 1931	—	5,000,000	5,000,000	—	—	—	10,000,000
" 1930	—	—	5,000,000	1,500,000	1,500,000	—	8,000,000
" 1929	—	—	5,000,000	1,500,000	1,500,000	—	8,000,000
" 1928	—	—	5,000,000	1,500,000	1,500,000	—	8,000,000
" 1927	—	—	5,000,000	1,500,000	1,500,000	—	8,000,000
" 1926	—	—	—	—	—	—	—
" 1925	—	—	—	—	—	538,000	538,000
" 1924	—	—	—	—	—	604,000	604,000
" 1923	—	—	—	—	—	660,000	660,000
" 1922	—	—	—	—	—	716,000	716,000
" 1921	—	—	—	—	—	772,000	772,000
" 1920	—	—	—	—	—	520,000	520,000
" 1919	—	—	—	—	—	561,000	561,000
" 1918	—	—	—	—	—	524,000	524,000
" 1917	—	—	—	—	—	358,500	358,500
" 1916	—	—	—	—	—	380,500	380,500
" 1915	—	—	—	—	—	375,000	375,000
" 1914	—	—	—	—	—	375,000	375,000
" 1913	—	—	—	—	—	375,000	375,000
" 1912	—	—	—	—	—	—	—
" 1911	—	—	—	—	—	—	—

Petitioners' Exhibit No. 49

WISCONSIN MICHIGAN POWER COMPANY

CAPITAL STOCK OUTSTANDING AS AT DECEMBER 31, 1911-1939 AND AS AT JUNE 30, 1940

		Preferred Stock				Total Capital Stock Outstanding
	Common Stock	4½% Series	6% Series	7% Series	8% Series	
June 30, 1940	$5,425,000	$4,000,000	$ —	$ —	$ —	$9,425,000
Dec. 31, 1939	5,425,000	4,000,000	—	—	—	9,425,000
" 1938	5,225,000	—	3,734,300	—	—	8,959,300
" 1937	5,225,000	—	3,734,300	—	—	8,959,300
" 1936	5,225,000	—	3,734,300	—	—	8,959,300
" 1935	5,225,000	—	3,734,300	—	—	8,959,300
" 1934	5,225,000	—	3,734,300	—	—	8,959,300
" 1933	5,225,000	—	3,734,300	—	—	8,959,300
" 1932	5,225,000	—	3,743,700	—	—	8,968,700
" 1931	5,225,000	—	3,754,400	—	—	8,979,400
" 1930	5,225,000	—	2,948,200	—	—	8,173,200
" 1929	5,225,000	—	2,208,600	—	—	7,433,600
" 1928	5,225,000	—	1,578,400	—	—	6,803,400
" 1927	5,225,000	—	1,275,000	—	—	6,500,000
" 1926	1,200,000	—	1,650,000	—	—	2,850,000
" 1925	1,200,000	—	—	1,650,000	—	2,850,000
" 1924	1,200,000	—	—	1,650,000	—	2,850,000
" 1923	1,200,000	—	—	1,552,700	—	2,752,700
" 1922	1,000,000	—	—	1,287,450	—	2,287,450
" 1921	1,000,000	—	—	1,123,341	—	2,123,341
" 1920	1,000,000	—	—	1,049,000	—	2,049,000
" 1919	925,000	—	—	823,550	—	1,748,550
" 1918	925,000	—	—	585,130	—	1,510,130
" 1917	924,000	—	—	348,730	1,500	1,274,230
" 1916	750,000	—	—	—	390,000	1,140,000
" 1915	750,000	—	—	—	372,550	1,122,550
" 1914	750,000	—	—	—	215,000	965,000
" 1913	750,000	—	—	—	140,000	890,000
" 1912	750,000	—	—	—	100,000	850,000
" 1911	750,000	—	—	—	—	750,000

Petitioners' Exhibit No. 49

WISCONSIN MICHIGAN POWER COMPANY

NOTES OUTSTANDING AS AT DECEMBER 31, 1921-1939, INCLUSIVE AND AS AT JUNE 30, 1940

	2½% Unsecured Promissory Notes Due Serially to 1943	3% Unsecured Promissory Notes Due Serially to 1942	Peninsular Power Co. 8% Serial Gold Notes	Miscellaneous	Total Notes Outstanding
June 30, 1940	$620,000	$ —	$ —	$ —	$620,000
Dec. 31, 1939	620,000	—	—	—	620,000
" 1938	—	560,000	—	—	560,000
" 1937	—	700,000	—	—	700,000
" 1936	—	—	—	—	—
" 1935	—	—	—	—	—
" 1934	—	—	—	50,000	50,000
" 1933	—	—	—	—	—
" 1932	—	—	—	—	—
" 1931	—	—	—	—	—
" 1930	—	—	50,000	—	50,000
" 1929	—	—	100,000	—	100,000
" 1928	—	—	150,000	—	150,000
" 1927	—	—	200,000	—	200,000
" 1926	—	—	250,000	—	250,000
" 1925	—	—	300,000	—	300,000
" 1924	—	—	300,000	—	300,000
" 1923	—	—	300,000	—	300,000
" 1922	—	—	300,000	—	300,000
" 1921	—	—	300,000	—	300,000

Petitioners' Exhibit No. 53

UNION ELECTRIC COMPANY OF MISSOURI AND SUBSIDIARIES

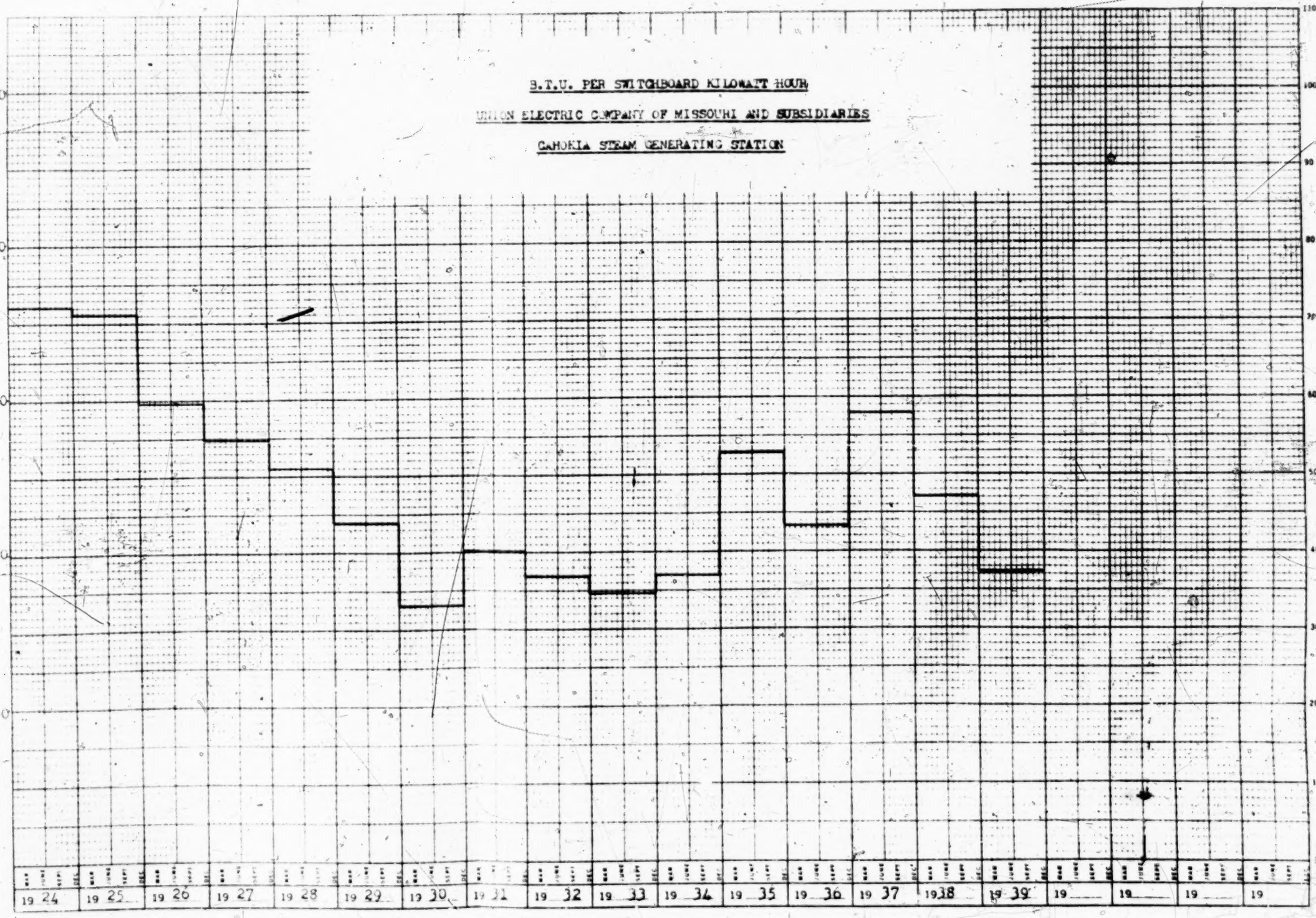
	Net Output (Millions of kwh.)	Operating Revenue (per kwh. sold cents)	Production Expense* (per kwh. sold cents)	Operating Expense* (per kwh. sold cents)
1926	1326.83	1.88	.222	.483
1927	1440.19	1.88	.216	.450
1928	1719.83	1.71	.193	.424
1929	1871.80	1.65	.226	.463
1930	1954.42	1.64	.252	.491
1931	1868.19	1.69	.241	.495
1932	1650.41	1.85	.158	.435
1933	1696.60	1.69	.164	.435
1934	1812.64	1.57	.191	.458
1935	2009.57	1.53	.134	.372
1936	2199.21	1.48	.214	.442
1937	2399.58	1.44	.204	.441
1938	2254.29	1.49	.175	.442
1939	2468.42	1.44	.203	.447

*Exclusive of taxes and depreciation.

B.T.U. PER SWITCHBOARD KILOWATT HOUR

UNION ELECTRIC COMPANY OF MISSOURI AND SUBSIDIARIES

CAHOKIA STEAM GENERATING STATION



Petitioners' Exhibit No. 58

UNION ELECTRIC COMPANY OF MISSOURI

RATE REDUCTIONS FROM 1918 TO 1940

Date Effective	Class of Service—Electric	Amount of Reduction
9/1/19	Wholesale Power	$ 57,000
9/1/19	Industrial Power	54,000
10/31/19	Residential	109,500
10/31/19	Standard	75,000
10/31/19	Increment Power	21,000
11/1/19	Increment Light	102,000
5/28/20	Wholesale Power	60,000
5/28/20	Industrial Power	17,500
9/1/23	Residential	227,740
9/1/23	Commercial Lighting	313,092
9/1/23	Increment Rates	131,792
10/1/25	Industrial Power	3,570
6/1/28	Commercial Lighting	355,073
6/1/28	Wholesale Power	199,324
6/1/28	Industrial Power	24,500
6/1/28	Residential	24,560
11/30/29	Commercial Lighting	18,926
11/30/29	Increment Lighting	3,033
11/30/29	Industrial Power	2,526
4/27/31	Wholesale Light and Power	389,115
1/22/32	Off-Peak Rates	5,000
5/1/32	Municipal Light and Power	58,439
6/12/32	Off-Peak Rates	2,000
1/31/33	Pittsburg Plate Glass Co.	20,000
2/1/33	Residential	43,680
2/1/33	Commercial Lighting	14,065
2/1/33	Increment Lighting	8,575
2/1/33	Increment Power	4,109
2/1/33	Industrial Power	3,799
8/1/33	Street Lighting	18,850
11/1/33	Residential	1,224,656
11/1/33	Commercial Lighting	285,116
5/1/34	Wholesale Power	10,463
2/15/35	Optional School Rate	26,000
4/1/35	Schools, Churches, etc.	58,500
5/1/36	Wholesale—Outlying	22,160
7/15/36	Large Light and Power and High Load Factor	57,251
7/15/36	Industrial	155,169

Petitioners' Exhibit No. 56

SUBSIDIARIES OF UNION ELECTRIC COMPANY OF MISSOURI

RATE REDUCTIONS FROM 1928 TO 1940

Date Effective	Class of Service—Electric	Amount of Reduction
8/16/28	Residence	$ 92,120
8/16/28	Commercial Lighting and Power	17,850
8/16/28	Wholesale	65,260
4/27/31	Wholesale	9,404
11/1/33	Residence	126,182
11/1/33	Commercial	78,506
11/1/33	Street Lighting	9,728
2/1/35	Optional School	5,700
4/1/35	Optional School	7,200
5/1/35	Street Lighting	8,398
6/20/36	Residence Commercial Primary Service	-212
7/15/36		42,349
8/1/36	Wholesale	446
6/15/37	Residence	205
9/1/37	Residence	42,729
9/1/37	Commercial	125,277
3/1/38	Reserve Power	3,249
4/1/38	Commercial Power	603
11/15/38	Commercial Lighting	324
6/15/39	Large Light and Power	5,973
10/15/39	Optional School	684
12/1/39	Commercial Lighting	6,461
5/1/40	Residence	35,690
5/1/40	Optional	430
6/23/40	Street Lighting	1,586
6/23/40	Municipal Pumping	861
6/27/40	Street Lighting	9,784
6/27/40	Municipal Pumping	587
7/1/40	Residence	1,215
7/1/40	Commercial	2,114
7/1/40	Large Light and Power	697
	Total Electric	$701,824

Petitioners' Exhibit No. 56

SUBSIDIARIES OF UNION ELECTRIC COMPANY OF MISSOURI

RATE REDUCTIONS FROM 1928 TO 1940

Date Effective	Class of Service—Electric	Amount of Reduction
7/15/36	Public Schools	$ 2,545
9/1/36	General Service—Municipal	34,541
5/1/37	City Contract	10,132
9/1/37	Commercial	901,651
11/1/37	Special High Load Factor	28,604
1/1/38	Special Large Light and Power	42,908
6/15/39	Large Light and Power	25,493
6/15/39	Standard General Commercial	5,948
7/1/39	Street Railways	29,688
5/1/40	Rate Zones	1,028
6/15/40	Street Lighting	18,386
6/15/40	Municipal Pumping	5,709
6/15/40	General Municipal	643
	Total Electric	$5,314,359

Petitioners' Exhibit No. 58

UNION ELECTRIC COMPANY OF MISSOURI

Description of Security	Date of Issue	Amount	Sale Price to Company	Approximate Cost to Company	Date of Redemption or Retirement	Redemption or Retirement Price
Common Stock, $100 par value	May 20, 1902	$ 700,000.00	(A)	—	September 9, 1903	(B)
5% Non-Cumulative Preferred Stock, $100 par value	May 20, 1902	2,000,000.00	(A)	—	September 9, 1903	(B)
Common Stock, $100 par value	May 20, 1902	4,000,000.00	100	—	September 9, 1903	(B)
Imperial Electric Light, Heat and Power Company First Mortgage 5% Bonds due April 1, 1930	May 20, 1902	1,000,000.00	(A)	—	September 1, 1902	100
City Lighting Company 5% Bonds	May 20, 1902	552,000.00	(A)	—	September 1, 1902	100
First Mortgage 30 Year 5% Bonds due September 1, 1932	Sept. 1, 1902	3,950,000.00	97	5.2%	(C)	(C)
		50,000.00	100	5 %	(C)	(C)
Capital Stock, $100 par value	Sept. 9, 1903	5,850,000.00	(B)	—	January 22, 1917	(D)
Missouri-Edison Electric Company First Mortgage 30 Year 5% Bonds due August 1, 1927	Sept. 9, 1903	3,400,000.00	(B)	—	Various to August 1, 1927	(E)
Missouri Electric Light and Power Company Second Mortgage 30 Year 6% Bonds due May 1, 1921	Sept. 9, 1903	600,000.00	(B)	—	May 1, 1921	100
Capital Stock, $100 par value	May 27, 1904	35,000.00	100	—	January 22, 1917	(D)
First Mortgage 30 Year 5% Bonds due September 1, 1932	Mar. 31, 1904 to Apr. 30, 1905	202,000.00	100	5 %	(C)	(C)
First Mortgage 30 Year 5% Bonds due September 1, 1932	May 31, 1904 to Apr. 30, 1905	2,000,000.00	93½	5.5%	(C)	(C)
3 Year 5% Collateral Trust Notes due January 15, 1909	Jan. 15, 1906	3,000,000.00	95	6.9%	January 15, 1909	100
Capital Stock, $100 par value	Dec. 5, 1907	4,000,000.00	100	—	January 22, 1917	(D)
Refunding and Extension Mortgage 5%, 25 Year Bonds due May 1, 1933	May 31, 1908	2,500,000.00	82½	6.4%	(F)	(F)
Refunding and Extension Mortgage 5%, 25 Year Bonds due May 1, 1933	Dec. 31, 1908	3,000,000.00	85	6.2%	(F)	(F)
Refunding and Extension Mortgage 5%, 25 Year Bonds due May 1, 1933	May 31, 1911	500,000.00	93	5.6%	(F)	(F)
Refunding and Extension Mortgage 5%, 25 Year Bonds due May 1, 1933	Feb. 29, 1912	379,000.00	93	5.6%	(F)	(F)
Refunding and Extension Mortgage 5%, 25 Year Bonds due May 1, 1933	Mar. 31, 1913	692,000.00	92½	5.6%	(F)	(F)
Common Stock, $100 par value	Jan. 22, 1917	9,905,000.00	(D)	—	November 22, 1922	(G)
Common Stock, $100 par value	Jan. 29, 1917	600,000.00	100	—	November 22, 1922	(G)
7% Non-Cumulative Preferred Stock, $100 par value	Jan. 29, 1917	1,000,000.00	100	7 %	November 22, 1922	(G)
Refunding and Extension Mortgage 5%, 25 Year Bonds due May 1, 1933	Jan. 29, 1917	1,600,000.00	90	5.9%	(F)	(F)
Refunding and Extension Mortgage 5%, 25 Year Bonds due May 1, 1933	Feb. 28, 1917	929,000.00	91	5.9%	(F)	(F)
7% Non-Cumulative Preferred Stock, $100 par value	Aug. 31, 1917	815,100.00	100	7 %	November 22, 1922	(G)
7% Non-Cumulative Preferred Stock, $100 par value	Jan.-Dec. 1918	145,000.00	100	7 %	November 22, 1922	(G)

Petitioners' Exhibit No. 58

UNION ELECTRIC COMPANY OF MISSOURI

Description of Security	Date of Issue	Amount	Sale Price to Company	Approximate Cost to Company	Date of Redemption or Retirement	Redemption or Retirement Price
2 Year 6% Bond Secured Notes due March 15, 1920..	Mar. 11, 1918	$ 1,000,000.00	96.85	7.7%	March 15, 1920	100
2 Year 6% Bond Secured Notes due March 15, 1920..	May 15, 1918	300,000.00	96.76	7.8%	March 15, 1920	100
Common Stock, $100 par value.....	May 15, 1918	500,000.00	100	—	November 22, 1922	(G)
2 Year 6% Notes due June 1, 1920.....	July 8, 1918	500,000.00	96.37	8.0%	June 1, 1920	100
7% Non-Cumulative Preferred Stock, $100 par value...	Jan.-Dec. 1919	357,600.00	100	7 %	November 22, 1922	(G)
Common Stock, $100 par value.....	Aug. 27, 1919	10,200.00	100	—	November 22, 1922	(G)
7% Non-Cumulative Preferred Stock, $100 par value...	Jan.-Dec. 1920	763,600.00	100	7 %	November 22, 1922	(G)
3 Year 7% Convertible Debentures due April 1, 1923...	Apr. 5, 1920	2,500,000.00	93.38	9.6%	Various to March 1, 1922	(H)
7% Non-Cumulative Preferred Stock, $100 par value...	Jan.-Dec. 1921	1,324,300.00	100	7 %	November 22, 1922	(G)
Refunding and Extension Mortgage 5%, 25 Year Bonds due May 1, 1933.....	Dec. 1921-Feb. 1922	1,554,000.00	85	6.9%	(F)	(F)
7% Non-Cumulative Preferred Stock, $100 par value...	Jan.-Nov. 1922	1,594,400.00	100	7 %	November 22, 1922	(G)
Preferred Stock, Issue of 1922, 7% Series, $100 par value	Nov. 22, 1922	5,563,500.00	(G)	—	January 1, 1939	105
Preferred Stock, Issue of 1922, 7% Series, $100 par value	Nov. 22, 1922	436,500.00	100	7 %	January 1, 1939	105
Common Stock, without par value.....	Nov. 22, 1922	550,760 shs.	(G)	—		
Common Stock, without par value.....	Nov. 22, 1922	99,240 shs.	$20 per sh.	—		
Preferred Stock, Issue of 1922, 7% Series, $100 par value	Feb. 1923 to Feb. 1924	3,000,000.00	100	7.0%	January 1, 1939	105
General Mortgage Bonds, 5%, Series A, due December 1, 1954.....	Dec. 23, 1924	5,000,000.00	96	5.3%	August 2, 1937	105
Common Stock, without par value.....	Jan. 6, 1926	325,000 shs.	$20 per sh.	—		
Preferred Stock, Issue of 1922, 6% Series, $100 par value	Jan. 1926 to June 1927	4,000,000.00	100	6.0%	January 1, 1939	103
General Mortgage Bonds 5%, Series B, due August 1, 1967.....	Aug. 5, 1927	10,000,000.00	99½	5.0%	Aug. 2, 1937	103¾
Paul Brown Investment Company 5% Mortgage Notes due serially to May 1, 1936.....	Sept. 19, 1927	577,324.76(I)	(J)	—	Various to January 16, 1933	(J)
Common Stock, without par value.....	Dec. 4, 1928	420,000 shs.	$25 per sh.	—		
General Mortgage Bonds, 5%, Series B, due August 1, 1967.....	Dec. 30, 1929	15,000,000.00	97	5.2%	August 2, 1937	103¾
Common Stock, without par value.....	Sept. 24, 1930	300,000 shs.	$25 per sh.	—		
Common Stock, without par value.....	Mar. 11, 1931	300,000 shs.	$25 per sh.	—		
Common Stock, without par value.....	Aug. 6, 1931	300,000 shs.	$25 per sh.	—		
General Mortgage Bonds, 5% Series due 1957, due April 1, 1957.....	July 28, 1932	15,000,000.00	90	5.8%	August 2, 1937	103¾
General Mortgage Bonds, 5% Series due 1957, due April 1, 1957.....	Oct. 20, 1932	7,500,000.00	95½	5.3%	August 2, 1937	103¾

Petitioners' Exhibit No. 58

UNION ELECTRIC COMPANY OF MISSOURI

Description of Security	Date of Issue	Amount	Sale Price to Company	Approximate Cost to Company	Date of Redemption or Retirement	Redemption or Retirement Price
General Mortgage Bonds, 4½% Series due 1957, due May 1, 1957	Jan. 27, 1933	$11,250,000.00	93¾	5.5%	August 2, 1937	103¾
First Mortgage and Collateral Trust Bonds, 3¾% Series due 1962, due July 1, 1962	July 1, 1937	80,000,000.00	98	3.9%		
3% Notes due 1942, due July 1, 1942	July 1, 1937	15,000,000.00	99⅝	3.1%		
Notes Payable	Nov. 30, 1938	13,000,000.00	100	1.5%	January 4, 1939	100
$5 Cumulative Preferred Stock, without par value	Nov. 30, 1938	130,000 shs.	$104.69 per sh.	4.8%		

Summary of Outstanding Securities at July 31, 1940

Common Stock, without par value	$ 52,500,000
$5 Cumulative Preferred Stock, without par value	13,000,000
First Mortgage and Collateral Trust Bonds, 3¾% Series due 1962, due July 1, 1962	80,000,000
3% Notes due 1942, due July 1, 1942	15,000,000
	$160,500,000

NOTES:

(A) Issued to stockholders of Imperial Electric Light, Heat and Power Company and Citizens Electric Lighting and Power Company at organization of the Company on May 20, 1902. On that date the Company assumed liability with respect to bonds of Imperial Electric Light, Heat and Power Company and City Lighting Company.

(B) On September 9, 1903, under a plan of consolidation with Missouri-Edison Electric Company, 58,500 shares of stock of the consolidated company were issued for stocks of the constituent companies. In the consolidation, Company assumed liability with respect to bonds of Missouri-Edison Electric Company and Missouri Electric Light and Power Company.

(C) $2,000 principal amount acquired at 97.65 and retired in December 1924; balance retired September 1, 1932 at 100.

(D) On January 22, 1917, under a plan of consolidation with Perry County Public Utilities Company, 99,050 shares of the consolidated company were issued in exchange for a like number of shares of the constituent companies.

(E) $235,500 principal amount acquired and retired at various dates and prices; balance retired August 1, 1927 at 100.

(F) $128,000 principal amount acquired and retired at various dates and prices; funds deposited on January 27, 1933 for payment of balance at 100 at any time thereafter.

(G) In reorganization of 1922, 55,635 shares of 7% Non-Cumulative Preferred Stock were exchanged for a like number of shares of Preferred Stock, Issue of 1922, 7% Series, of the successor company upon payment of $5 per share, 2,640 shares were called for redemption at 105, and balance of 1,725 shares were retired at par. 110,152 shares of Common Stock, $100 par value, were exchanged for 550,760 shares of Common Stock, without par value, of the successor company.

(H) $1,554,000 principal amount exchanged during period from December 1921 to February 1922 for a like principal amount of Refunding and Extension Mortgage 5% Bonds plus a premium of $150 per bond, and $946,000 principal amount was redeemed on March 1, 1922 for cash at 100½.

(I) Interest included in fact amount of notes.

(J) Assumed in acquisition of land for Company's office building. $352,808.26 face amount paid serially from November 1, 1927 to November 1, 1932, $224,516.48 face amount, of which $203,648.85 was principal, purchased on January 16, 1933 for $209,871.41 and retired.

Petitioners' Exhibit No. 58

UNION ELECTRIC COMPANY OF ILLINOIS

Description of Security	Date of Issue	Amount	Sale Price to Company	Approximate Cost to Company	Date of Redemption or Retirement	Redemption or Retirement Price
Capital Stock, $100 par value	July 9, 1908	$ 2,400.00	(A)	—	July 19, 1910	(B)
Capital Stock, $100 par value	July 7, 1909	22,600.00	(A)	—	July 19, 1910	(B)
Capital Stock, $100 par value	July 19, 1910	733,500.00	(C)	—	May 28, 1937	(D)
First Mortgage Five Per Cent. Bonds—due June 1, 1940.	July 19, 1910	145,000.00	(C)	—	(E)	(E)
First Mortgage Five Per Cent. Bonds—due June 1, 1940.	Apr. 4, 1912	93,000.00	95.5	5.3%	(E)	(E)
Capital Stock, $100 par value	Dec. 29, 1913	243,000.00	100	—	May 28, 1937	(D)
First Mortgage Five Per Cent. Bonds—due June 1, 1940.	Dec. 29, 1913	124,000.00	87.5	5.9%	(E)	(E)
First Mortgage Five Per Cent. Bonds—due June 1, 1940.	Dec. 31, 1913	211,000.00	87.5	5.9%	(E)	(E)
First Mortgage Five Per Cent. Bonds—due June 1, 1940.	Dec. 7, 1914	383,000.00	85	6.2%	(E)	(E)
First Mortgage Five Per Cent. Bonds—due June 1, 1940.	May 19, 1915	17,000.00	85	6.2%	(E)	(E)
First Mortgage Five Per Cent. Bonds—due June 1, 1940.	Feb. 1, 1917	119,000.00	92.5	5.6%	(E)	(E)
Capital Stock, $100 par value	Feb. 1, 1917	123,500.00	100	—	May 28, 1937	(D)
First Mortgage Five Per Cent. Bonds—due June 1, 1940.	Sept. 1, 1918	80,000.00	80	6.8%	(E)	(E)
Capital Stock, $100 par value	Sept. 1, 1918	100,000.00	100	—	May 28, 1937	(D)
Capital Stock, $100 par value	Apr. 22, 1927	800,000.00	100	—	May 28, 1937	(D)
First Mortgage Five Per Cent. Bonds—due June 1, 1940.	Apr. 22, 1927	828,000.00	94	5.7%	May 26, 1937	(F)
Capital Stock, $100 par value	Mar. 14, 1928	400,000.00	100	—	May 28, 1937	(D)
First Mortgage Five Per Cent. Bonds—due June 1, 1940.	Apr. 30, 1928	400,000.00	97.5	5.3%	May 26, 1937	(F)
Notes Payable	May 26, 1937	2,335,000.00	100	2.0%	July 1, 1937	100
Notes Payable	May 28, 1937	14,750,000.00	(G)	—	July 1, 1937	100
Common Stock, $20 par value	May 28, 1937	18,000,000.00	(H)	—		
Preferred Stock, $100 par value	May 28, 1937	8,000,000.00	(H)	—	July 1, 1937	103
Alton Railway and Illuminating Company—Five Per Cent. First Mortgage Twenty Year Bonds—due October 1, 1939	May 28, 1937	250,000.00	(G)	—	October 1, 1939	100
Alton Railway, Gas and Electric Company—Five Per Cent. First Mortgage Forty Year Bonds—due October 1, 1939	May 28, 1937	250,000.00	(G)	—	October 1, 1939	100
First Mortgage Bonds, 3¼% Series due 1962—due July 1, 1962	July 1, 1937	22,000,000.00	98	3.9%		

Summary of Outstanding Securities at July 31, 1940

Common Stock, $20 par value	$18,000,000
First Mortgage Bonds, 3¼% Series due 1962—due July 1, 1962	22,000,000
	$40,000,000

NOTES:

(A) Books of the Company opened in February 1910 and in the opening entry 250 shares of Capital Stock, $100 par value, were offset against property of $25,000.

(B) Retired under plan of merger of Citizens Electric Light & Power Company and Southwestern Light & Power Company into this Company.

(C) Issued under plan of merger of Citizens Electric Light & Power Company and Southwestern Light & Power Company into this Company to security holders of the constituent companies.

(D) Retired under plan of merger of Union Electric Light and Power Company of Illinois, Power Operating Company, Alton Light & Power Company and Alton Gas Company into this Company.

(E) $78,000 principal amount of a total of $1,172,000 was held by Union Electric Company of Missouri and redeemed on May 26, 1937 by payment to that Company of the cost price of $73,262.50 or 93.9; remaining $1,094,000 principal amount redeemed on July 1, 1937 at 105.

(F) Held by Union Electric Company of Missouri and redeemed by payment to that company of the cost price of $1,168,320 or 95.1.

(G) Assumed in merger of May 28, 1937.

(H) Issued under plan of merger of Union Electric Light and Power Company of Illinois, Power Operating Company, Alton Light & Power Company and Alton Gas Company into this Company to security holders of the constituent companies.

Petitioners' Exhibit No. 58

MISSISSIPPI RIVER POWER COMPANY

Description of Security	Date of Issue	Amount	Sale Price to Company	Approximate Cost to Company	Date of Redemption or Retirement	Redemption or Retirement Price
Common Capital Stock, $100 par value	Nov. 11, 1910	$ 500.00	100	—		
Common Capital Stock, $100 par value	Feb. 20, 1911	15,999,500.00		—		
6% Preferred Capital Stock, $100 par value	Feb. 20, 1911	4,000,000.00	(A)	—		
First Mortgage Five Per Centum Forty Year Bonds, due January 1, 1951	Mar. 21, 1911 to Mar. 31, 1913	15,000,000.00		—	(B)	(B)
6% Preferred Capital Stock, $100 par value	Oct. 4, 1912 to Nov. 1, 1912	20,000.00	100	6%		
6% Preferred Capital Stock, $100 par value	Feb. 12, 1913	1,980,000.00	100	6%		
First Mortgage Five Per Centum Forty Year Bonds, due January 1, 1951	Apr.-June 1913	3,000,000.00	80	6.4%	(B)	(B)
First Mortgage Five Per Centum Forty Year Bonds, due January 1, 1951	July-Sept. 1913	1,500,000.00	76.5	6.7%	(B)	(B)
First Mortgage Five Per Centum Forty Year Bonds, due January 1, 1951	Oct. 1913	300,000.00	80	6.4%	(B)	(B)
First Mortgage Five Per Centum Forty Year Bonds, due January 1, 1951	July 22, 1914	200,000.00	80	6.4%	(B)	(B)
6% Coupon Debentures, due May 1, 1919 (Extended)	July 24, 1914	1,500,000.00	94	7.5% (C)	Various to January 31, 1921	100
First Mortgage Five Per Centum Forty Year Bonds, due January 1, 1951	Oct. 27, 1920	648,300.00	70	7.5%	(B)	(B)
7% Coupon Debentures, due November 1, 1935	Jan. 26, 1921	3,600,000.00	85	8.9%	Various to May 1, 1927	(D)
6% Preferred Capital Stock, $100 par value	Feb. 10, 1921	2,234,475.00	(E)	—		
5% Debentures, due May 1, 1947	May 2, 1927	3,000,000.00	93	5.6%	(F)	(F)

Summary of Outstanding Securities at July 31, 1940

Common Capital Stock, $100 par value	$16,000,000
6% Preferred Capital Stock, $100 par value	8,234,475
First Mortgage Five Per Centum Forty Year Bonds, due January 1, 1951	15,753,500
5% Debentures, due May 1, 1947	2,817,000
	$42,804,975

NOTES:

(A) Issued in payment for hydroelectric plant and transmission lines, including an undetermined amount of intangibles of the nature of financing and underwriting expenses and costs incidental to providing a market for the power.

(B) $4,894,800 principal amount retired at various dates and prices to 105 in accordance with sinking fund requirements.

(C) Effective rate of interest to May 1, 1919, the date of maturity. During extension period interest was paid as follows:

Period of Extension	Amount of Issue Extended	Rate of Interest
May 1, 1919 to May 1, 1920	$1,500,000	7.46%
May 1, 1920 to November 1, 1920	1,200,000	7.46%
November 1, 1920 to January 31, 1921	750,000	8.00%

(D) $1,127,000 retired in accordance with sinking fund requirements at various dates and prices to 103 and balance of $2,473,000 redeemed on May 1, 1927 at 102.

(E) Issued in payment of accumulated preferred dividend of 37½% to January 1, 1921.

(F) $183,000 principal amount retired at various dates and prices to 100 in accordance with purchase fund requirements.

Petitioners' Exhibit No. 58

IOWA UNION ELECTRIC COMPANY

Description of Security	Date of Issue	Amount	Sale Price to Company	Approximate Cost to Company	Date of Redemption or Retirement	Redemption or Retirement Price
Capital Stock, $100 par value	Dec. 5, 1911	$375,000.00	100	—	December 15, 1913	(A)
Keokuk Gas Light and Coke Company 5% Bonds due January 15, 1918	Dec. 6, 1911	150,000.00	(B)	—	January 15, 1918	100
Keokuk Electric Railway and Power Company 5% Bonds due serially to July 1, 1925	Dec. 6, 1911	206,000.00	(B)	—	Various to July 1, 1925	100
Hamilton Light and Power Company 6% Bonds due March 1, 1922	Dec. 6, 1911	4,500.00	(B)	—	Jan.-Feb. 1917	100
Capital Stock, $100 par value	Nov. 5, 1912	275,000.00	100	—	December 15, 1913	(A)
Capital Stock, $100 par value	Dec. 15, 1913	215,000.00	100	—	December 15, 1913	(A)
6% Preferred Capital Stock, $100 par value	Dec. 15, 1913	250,000.00	(A)	6.0%	June 30, 1938	110
Common Capital Stock, $100 par value	Dec. 15, 1913	615,000.00	(A)	—	November 9, 1928	(C)
Common Capital Stock, $100 par value	May 12, 1915	35,000.00	100	—	November 9, 1928	(C)
First and Refunding Mortgage 6% Bonds, due Jan. 15, 1923	Jan. 15, 1918	150,000.00	97	6.7%	January 15, 1923	100
First and Refunding Mortgage 6% Bonds, due Jan. 15, 1923	Dec. 17, 1920	238,000.00	90.95	11.2%	January 15, 1923	100
2½ Year 6% Mortgage Notes, due July 1, 1925	Jan. 11, 1923	277,000.00	95.5	8.0%	July 1, 1925	100
		123,000.00	96	7.9%	July 1, 1925	100
First Mortgage 6% Bonds, Series A, due May 1, 1945	May 29, 1925	700,000.00	92.5	6.7%		
Common Capital Stock, without par value	Nov. 9, 1928	450,000.00	(C)	—		
Common Capital Stock, without par value	Dec. 27, 1937	549,315.00	$45/sh.	—		

Summary of Outstanding Securities at July 31, 1940

Common Capital Stock, without par value	$ 999,315
First Mortgage 6% Bonds, Series A, due May 15, 1945	700,000
	$1,699,315

NOTES:

(A) On December 15, 1913, 2,150 shares of Capital Stock, $100 par value, were issued making a total of 8,650 shares issued and outstanding. On the same date the Capital Stock was converted into 2,500 shares of Preferred Capital Stock, $100 par value, and 6,150 shares of Common Capital Stock, $100 par value.

(B) Keokuk Gas Light and Coke Company 5% Bonds were assumed by the Company at part purchase price of property of that company. Bonds of Hamilton Light and Power Company and Keokuk Electric Railway and Power Company constituted a prior lien on certain property acquired from those companies. They were not assumed but were paid by the Company.

(C) On November 9, 1928, the Common Capital Stock was changed from 6,500 shares, $100 par value, to 10,000 shares without par value but with a stated value of $45 per share.

Petitioners' Exhibit No. 59

UNION ELECTRIC COMPANY OF MISSOURI

	Earnings Available for Common Dividends and Investment					Investment Requirements		
Year	Earnings for Dividends	Preferred Dividends	Balance for Common Dividends	Appropriations for Depreciation Reserve	Total	Gross Additions to Property	Investments in Securities of Subsidiaries at December 31, 1939 by Year of Acquisition	Total
1903	$ 180,366.05	$ —	$ 180,366.05	$ —	$ 180,366.05	$ 1,996,070.28	$ —	$ 1,996,070.28
1904	315,208.56	—	315,208.56	—	315,208.56	890,605.78	—	890,605.78
1905	335,502.69	—	335,502.69	—	335,502.69	3,696,798.92	—	3,696,798.92
1906	334,683.55	—	334,683.55	—	334,683.55	1,897,723.43	—	1,897,723.43
1907	494,951.92	—	494,951.92	176,780.77	671,732.69	5,412,775.45	—	5,412,775.45
1908	656,642.49	—	656,642.49	361,552.97	1,018,195.46	660,599.09	—	660,599.09
1909	748,376.13	—	748,376.13	406,894.47	1,155,270.60	664,609.31	—	664,609.31
1910	780,967.99	—	780,967.99	539,553.42	1,320,521.41	964,815.68	—	964,815.68
1911	796,237.97	—	796,237.97	576,882.59	1,373,120.56	1,268,788.45	—	1,268,788.45
1912	877,247.54	—	877,247.54	579,357.79	1,456,605.33	435,455.20	—	435,455.20
1913	696,965.16	—	696,965.16	598,700.32	1,295,665.48	1,174,460.16	—	1,174,460.16
1914	630,872.53	—	630,872.53	408,350.10	1,039,222.63	660,242.11	—	660,242.11
1915	521,864.08	—	521,864.08	306,833.84	828,697.92	375,921.93	—	375,921.93
1916	593,708.11	—	593,708.11	308,504.01	902,212.12	1,243,280.58	—	1,243,280.58
1917	612,993.40	84,073.50	528,919.90	314,679.11	843,599.01	3,537,052.58	—	3,537,052.58
1918	550,016.69	135,353.75	414,662.94	406,560.95	821,223.89	1,283,609.70	—	1,283,609.70
1919	1,135,334.35	143,781.75	991,552.60	669,771.83	1,661,324.43	1,540,707.04	—	1,540,707.04
1920	1,342,581.19	196,463.44	1,146,117.75	999,842.04	2,145,959.79	2,716,069.82	—	2,716,069.82
1921	1,987,486.16	265,574.75	1,721,911.41	1,133,130.34	2,855,041.75	1,663,192.95	—	1,663,192.95
1922	2,560,501.79	411,032.70	2,149,469.09	1,381,755.62	3,531,224.71	1,713,755.24	—	1,713,755.24
1923	3,839,591.72	606,048.60	3,233,543.12	1,498,282.67	4,731,825.79	2,143,170.76	1,532,242.00	3,675,412.76
1924	3,158,427.73	625,773.05	2,532,654.68	1,573,574.37	4,106,229.05	4,163,069.19	—75,000.00	4,088,069.19
1925	3,098,451.89	630,000.00	2,468,451.89	*1,654,332.68	4,122,784.57	4,118,090.00	—	4,118,090.00
1926	4,287,337.14	866,427.00	3,420,910.14	1,599,611.72	5,020,521.86	6,893,307.13	12,615,022.78	19,508,329.91
1927	5,214,479.18	869,985.00	4,344,494.18	1,604,796.18	5,949,290.36	5,843,640.52	139,248.16	5,982,888.68
1928	5,790,772.81	870,000.00	4,920,772.81	1,536,527.25	6,457,300.06	3,925,850.17	13,615,420.06	17,541,270.23
1929	6,896,941.36	870,000.00	6,026,941.36	1,546,307.41	7,573,248.77	8,817,931.70	54,104.81	8,872,036.51
1930	7,951,098.19	870,000.00	7,081,098.19	1,472,279.83	8,553,378.02	23,737,059.88	1,914.80	23,738,974.68
1931	8,797,920.98	870,000.00	7,927,920.98	1,561,463.94	9,489,384.92	15,676,985.28	7,535,530.00	23,212,515.28
1932	6,429,293.87	870,000.00	5,559,293.87	1,924,126.60	7,483,420.47	10,478,466.77	—166,451.07	10,312,015.70
1933	5,776,947.85	870,000.00	4,906,947.85	1,944,258.16	6,851,206.01	1,720,891.75	12,317,713.42	14,038,605.17
1934	4,485,381.31	870,000.00	3,615,381.31	1,944,300.00	5,559,681.31	997,933.76	—25,189.23	972,744.53
1935	6,795,931.88	868,488.25	5,927,443.63	1,969,000.00	7,896,443.63	2,391,408.91	—319,786.51	2,071,622.40
1936	6,867,055.15	869,973.50	5,997,081.65	2,021,000.00	8,018,081.65	3,234,624.43	—32,879.51	3,201,744.92
1937	8,297,404.94	869,967.00	7,427,437.94	2,141,311.00	9,568,748.94	4,560,199.38	19,557,686.20	24,117,885.58
1938	6,390,114.75	869,967.00	5,520,147.75	2,201,291.00	7,721,438.75	4,193,233.11	—2,230.22	4,191,002.89
1939	6,925,940.12	731,250.00	6,194,690.12	2,257,398.00	8,452,088.12	3,659,419.19	—5,466.25	3,653,952.94
	$117,155,599.22	$15,134,159.29	$102,021,439.93	$39,619,010.98	$141,640,450.91	$140,351,815.63	$66,741,879.44*	$207,093,695.07

*This amount has been written down by a net amount of $4,319,881.75.

Petitioners' Exhibit No. 59

UNION ELECTRIC COMPANY OF MISSOURI

	Gross Income (1)	Interest on Funded Debt	Times Interest Earned
1904	$ 613,307	$ 442,797	1.39
1905	628,865	509,867	1.23
1906	848,620	657,214	1.29
1907	1,280,621	663,200	1.93
1908	1,489,494	740,225	2.01
1909	1,605,158	856,781	1.87
1910	1,625,572	844,604	1.92
1911	1,650,806	854,568	1.93
1912	1,739,557	862,309	2.02
1913	1,583,405	886,439	1.79
1914	1,534,783	903,911	1.70
1915	1,423,182	901,318	1.58
1916	1,480,071	886,363	1.67
1917	1,652,600	1,039,607	1.59
1918	1,689,261	1,051,308	1.61
1919	2,264,314	1,091,323	2.07
1920	2,504,724	1,141,065	2.20
1921	3,254,261	1,135,419	2.87
1922	3,710,355	1,042,342	3.56
1923	4,934,582	1,025,975	4.81
1924	4,289,377	1,029,810	4.17
1925	4,434,216	1,268,971	3.49
1926	5,608,429	1,268,450	4.42
1927	6,681,549	1,411,495	4.73
1928	7,697,074	1,631,157	5.72
1929	9,093,021	1,631,062	5.57
1930	10,234,473	2,376,689	4.31
1931	10,670,061	2,374,284	4.49
1932	10,212,443	2,662,779	3.84
1933	9,619,270	3,276,311	2.94
1934	8,042,537	3,128,100	2.57
1935	10,296,416	3,128,100	3.29
1936	10,362,283	3,128,100	3.31
1937	12,103,332	3,289,050	3.68
1938	10,388,011	3,450,000	3.01
1939	10,965,212	3,450,000	3.18

(1) After depreciation and taxes.

Petitioners' Exhibit No. 59

UNION ELECTRIC COMPANY OF MISSOURI

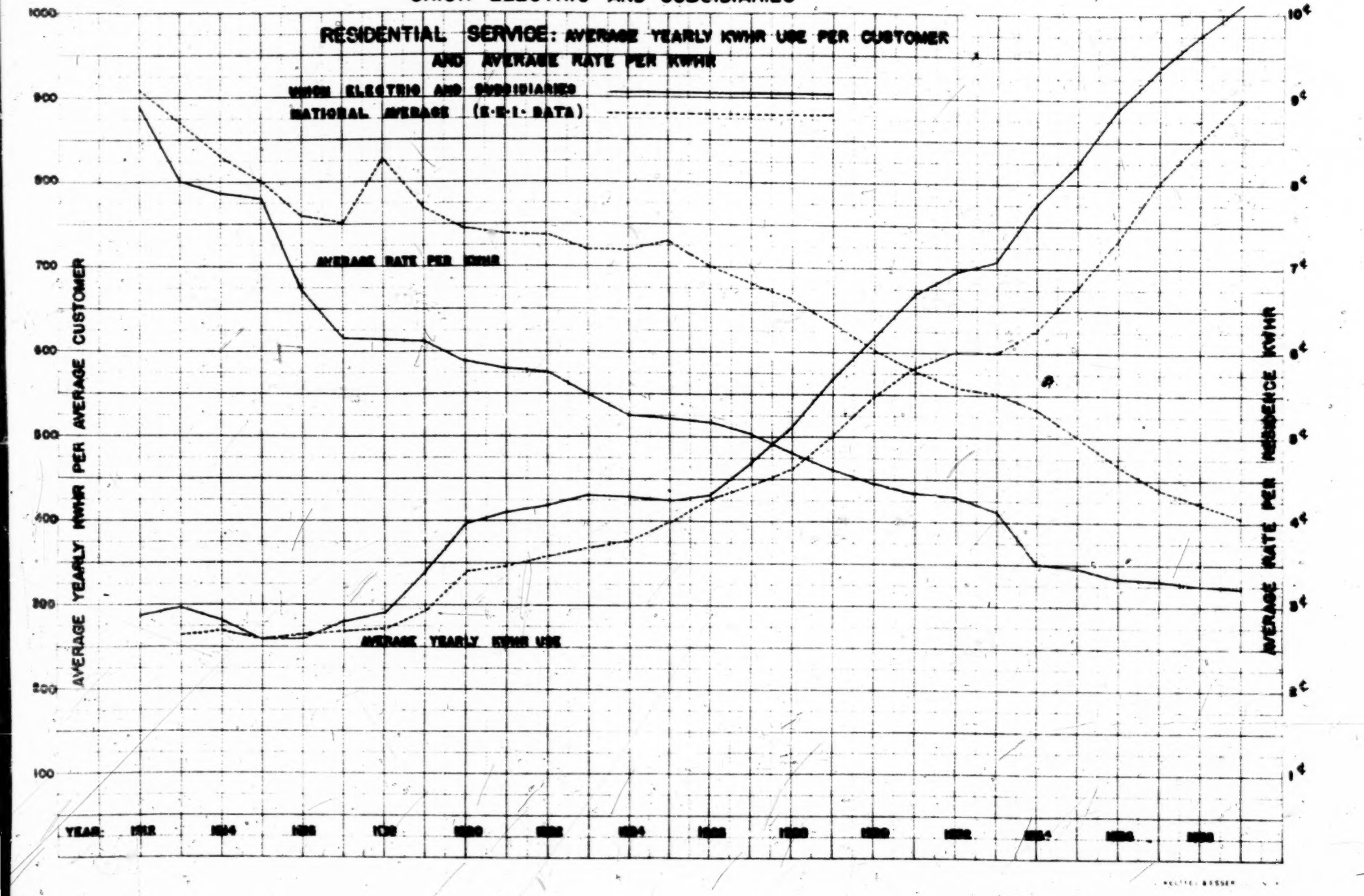
	Property and Plant Account at Beginning of Year	Operating Revenues	Property and Plant per Dollar of Revenue
1904	$ 13,583,355	$ 1,549,983	$8.76
1905	14,419,922	1,660,488	8.68
1906	17,900,498	2,073,714	8.63
1907	19,719,115	2,685,419	7.34
1908	24,697,065	3,286,214	7.52
1909	24,926,871	3,339,501	7.46
1910	25,218,284	3,721,066	6.78
1911	25,646,874	3,971,936	6.46
1912	26,399,737	4,063,512	6.50
1913	26,966,234	4,238,343	6.29
1914	27,761,981	4,353,817	6.38
1915	27,891,884	4,329,943	6.44
1916	27,955,383	4,656,611	6.00
1917	28,156,202	5,941,551	4.74
1918	33,440,861	6,599,666	5.07
1919	33,992,442	8,153,408	4.17
1920	35,113,910	9,882,232	3.55
1921	37,380,866	10,695,424	3.50
1922	38,526,293	11,960,028	3.22
1923	39,631,996	13,861,102	2.86
1924	41,186,053	15,056,814	2.74
1925	45,008,913	15,915,023	2.83
1926	48,154,210	17,434,897	2.76
1927	54,266,561	18,573,813	2.92
1928	58,883,619	19,588,536	3.01
1929	61,297,978	20,962,579	2.92
1930	68,528,620	22,348,328	3.07
1931	89,556,395	21,914,822	4.09
1932	103,707,617	20,472,937	5.07
1933	113,310,780	19,185,667	5.91
1934	114,619,873	18,908,994	6.06
1935	114,943,521	20,035,401	5.74
1936	116,568,938	21,798,310	5.35
1937	118,689,665	23,101,716	5.14
1938	121,252,214	22,273,977	5.44
1939	123,891,152	23,685,254	5.23

Petitioners' Exhibit No. 59

UNION ELECTRIC COMPANY OF MISSOURI AND SUBSIDIARIES

(System as now constituted)

	Property and Plant Account at Beginning of Year	Operating Revenues	Property and Plant per Dollar of Revenue
1929	$167,938,309	$31,198,805	$5.38
1930	176,925,293	32,277,895	5.48
1931	203,174,406	31,030,498	6.55
1932	220,420,948	28,026,997	7.86
1933	221,976,736	26,527,682	8.37
1934	222,663,856	26,635,519	8.36
1935	221,356,053	27,993,991	7.91
1936	220,258,958	30,086,007	7.32
1937	222,308,997	31,784,604	6.99
1938	230,028,887	30,172,675	7.62
1939	233,296,692	32,531,076	7.17


UNION ELECTRIC AND SUBSIDIARIES
RESIDENTIAL SERVICE: AVERAGE YEARLY KWHR USE PER CUSTOMER
AND AVERAGE RATE PER KWHR
UNION ELECTRIC AND SUBSIDIARIES
NATIONAL AVERAGE (E·E·I· DATA)
AVERAGE RATE PER KWHR
AVERAGE YEARLY KWHR USE
AVERAGE YEARLY KWHR PER AVERAGE CUSTOMER
AVERAGE RATE PER RESIDENCE KWHR
1000
900
800
700
600
500
400
300
200
100
10¢
9¢
8¢
7¢
6¢
5¢
4¢
3¢
2¢
1¢
YEAR:

Petitioners' Exhibit No. 124

THE NORTH AMERICAN COMPANY

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SHEET A—Statistics On Certain Characteristics—1939.

B—Percentage Relationship of Certain Characteristics to State Totals—1939.

C—Comparison With Certain Other Systems—1939.

D—Graph—Comparison With Certain Other Systems—1939.

E—Comparison of Average Residential Monthly Bills As of January 1, 1940 With Average Bills of All Electric Utilities, Privately Owned and Municipal, in Same States.

F—Comparison of Operating Expenses Other Than Production—1938.

G—Charts—

1—Average Revenue per Kilowatt-Hour, Total Sales, Compared With United States Average—1929-1940.

2—Average Revenue per Kilowatt-Hour, Residential Sales, Compared With United States Average, 1929-1940.

3—Trend of Operating Expenses, Including Production, per Kilowatt-Hour Sold, 1926-1940.

H—Comparison of Depreciation Appropriations and Reserves—1938-1939.

I—Relative Size Compared with Certain Other Enterprises in the United States—1939.

APRIL 5, 1941

Petitioners' Exhibit No. 124

Sheet A

THE NORTH AMERICAN COMPANY

UNION ELECTRIC, WISCONSIN-MICHIGAN AND CLEVELAND SYSTEMS
STATISTICS ON CERTAIN CHARACTERISTICS

(Data are as of December 31, 1939 or for year 1939)

	Electric Service Area (Sq. Miles)	Number of Communities Served Electrically	Population Served Electrically	Number of Electric Customers (Average)	Electric Generating Capacity KW	Electric System Peak Load KW	Total KWH Sold (000)	Total Electric Operating Revenue	Total Utility Operating Revenue	Electric Plant Investment	Total Utility Plant Investment	Total Assets
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
UNION ELECTRIC SYSTEM (a)												
In Missouri	2,600	93	1,337,000	297,503	244,000	(d)	1,309,534	$23,633,599	$26,556,895	$124,617,244	$135,363,416	(d)
In Illinois	500	24	177,000	38,256	340,000	(d)	571,359	5,647,684	5,973,543	100,266,655 (e)	103,596,676 (e)	(d)
In Iowa	100	10	36,000	11,228	108,000	(d)	259,616	1,555,228	1,613,329			(d)
TOTAL UNION ELECTRIC SYSTEM	3,200	127	1,550,000	346,987	692,000	476,000	2,140,509	$30,836,511	$34,143,767	$224,883,899	$238,960,092	$266,607,480
WISCONSIN-MICHIGAN SYSTEM												
In Wisconsin	6,600	328	1,210,000	339,593	518,000	(d)	1,173,005	$24,647,704	$39,520,595	$146,154,228	$216,029,152	$246,676,553
In Michigan	5,800	60	66,000	9,967	27,000	(d)	40,745	844,756	844,756	(b)	(b)	(b)
TOTAL WISCONSIN-MICHIGAN SYSTEM	12,400	388	1,276,000	349,560	545,000	357,000	1,213,750	$25,492,460	$40,375,351	$146,154,228	$216,029,152	$246,676,553
CLEVELAND ELECTRIC ILLUMINATING COMPANY SYSTEM												
In Ohio	1,700	133	1,300,000	328,874	524,000	436,000	1,599,352	$28,270,276	$29,629,464	$136,630,036	$143,514,639	$158,837,423
ABOVE SYSTEMS COMBINED												
In the six states	17,300	648	4,126,000	1,025,421	1,761,000	1,269,000 (c)	4,953,611	$84,599,247	$103,455,340	$507,668,163	$598,503,883	$672,121,456

a—Union Electric Company of Missouri and subsidiaries, plus St. Louis County Gas Company.
b—Included in Wisconsin figures.
c—Undiversified as between systems.
d—Not segregated by states.
e—Mississippi River Power Co. has small amount of Transmission Investment in Missouri included in the figure shown.

Petitioners' Exhibit No. 124

Sheet B

THE NORTH AMERICAN COMPANY

UNION ELECTRIC, WISCONSIN-MICHIGAN AND CLEVELAND SYSTEMS
PERCENTAGE RELATIONSHIP OF CERTAIN CHARACTERISTICS TO STATE TOTALS

(Data are as of Dec. 31, 1939 or for year 1939, except as noted)

	Electric Service Area	Population Served Electrically	Electric Customers (Average)	Electric Generating Capacity	Total KWH Sold	Total Electric Operating Revenue	Total Utility Operating Revenue (b)	Total Utility Plant Investment (b)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
UNION ELECTRIC SYSTEM (a)								
In Missouri	3.8%	36.8%	38.2%	31.7%	52.0%	42.5%	42.0%	38.2%
In Illinois	0.9	2.3	1.9	13.6	7.6	3.3	2.9	(
In Iowa	0.2	1.5	2.0	15.6	20.6	4.4	4.1	(8.9
TOTAL UNION ELECTRIC SYSTEM	1.8	11.3	10.2	17.5	19.0	11.6	11.0	15.6
WISCONSIN-MICHIGAN SYSTEM								
In Wisconsin	11.9	41.2	44.2	52.0	52.8	45.0	56.0	—
In Michigan	10.1	1.4	0.7	1.4	0.9	0.8	0.9	—
TOTAL WISCONSIN-MICHIGAN SYSTEM	9.7	16.4	16.2	18.9	17.5	16.0	24.0	22.8
CLEVELAND ELECTRIC ILLUMINATING COMPANY SYSTEM								
In Ohio	4.2	19.6	18.2	21.6	22.9	20.0	20.6	19.8
ABOVE SYSTEMS COMBINED								
In the six states	5.2	14.6	13.9	19.1	19.7	15.1	16.6	18.5

a—Union Electric Company of Missouri and subsidiaries plus St. Louis County Gas Company.

b—State totals are for all Class A and B Electric Utilities, i.e. those with annual electric revenues $250,000 and above. State totals are for 1938; System data are for 1939.

Petitioners' Exhibit No. 124

Sheet C

THE NORTH AMERICAN COMPANY

UNION ELECTRIC, WISCONSIN-MICHIGAN AND CLEVELAND SYSTEMS
COMPARISON WITH CERTAIN OTHER SYSTEMS

(Data are as of December 31, 1939, or for year 1939)

	Electric Service Area (Sq. Miles) (1)	No. of Communities Served Electrically (2)	Population Served Electrically (3)	Electric Customers (Average) (4)	Electric Generating Capacity KW (5)	Electric System Peak Load KW (6)	Total KWH Sold (000) (7)	Total Electric Revenue (8)	Total Utility Revenue (9)	Electric Plant Investment (10)	Total Utility Plant Investment (11)	Total Assets (12)
THE NORTH AMERICAN COMPANY												
Union Electric System (a)	3,200	127	1,550,000	349,366	692,000	476,000	2,140,509	$30,836,511	$ 34,143,767	$224,883,899	$ 238,960,092	$ 266,607,480
Wisconsin-Michigan System	12,400	388	1,276,000	349,560	545,000	357,000	1,213,750	25,492,460	39,682,109	146,154,228	216,029,152	246,676,553
Cleveland Electric Illuminating System	1,700	133	1,300,000	328,874	524,000	436,000	1,599,352	28,270,276	29,629,464	136,630,036	143,514,639	158,837,423
Combined Systems	17,300	648	4,126,000	1,025,421	1,761,000	1,269,000(b)	4,953,611	$84,599,247	$103,455,340	$507,668,163	$598,503,883	$ 672,121,456
OTHER SYSTEMS												
American Gas & Electric Co.—Central System	28,100	1,445	2,721,000	631,975	1,082,666	909,320	4,209,209	$68,370,395	$ 68,370,395	$369,663,458(c)	$ 369,663,458	$ 415,238,376
Niagara Hudson Power Corp.	(d)	630	2,750,000	725,855	1,725,688	1,316,000	6,643,606	73,638,878	85,413,678	430,573,000	543,733,450	621,607,681
United Gas Improvement Co.—Philadelphia Area (f)	2,400	(d)	3,000,000	774,622	1,188,860	907,000	4,035,881	68,552,056	80,456,034	342,832,000	431,333,433	486,970,466
Consolidated Edison Co. of N. Y. Inc. System	538	47	7,900,000	2,409,492	2,566,300	1,660,000	6,409,795	199,256,708	251,171,407	908,144,583	1,233,397,236	1,353,464,465
Commonwealth Edison Co. System	11,000	539	5,000,000	1,368,163	1,996,590	1,535,000	6,684,807	130,178,162	145,873,845	574,537,188(e)	681,122,806	841,424,013
Public Service Electric & Gas Co. (N. J.)	(d)	223	3,192,240	960,506	737,700	700,800	2,495,780	77,018,387	104,670,052	323,743,598	474,632,182	528,970,410
Southern California Edison Co. Ltd.	12,000	225	2,600,000	537,367	1,096,170	684,500	2,963,270	45,785,984	45,785,984	343,918,029	353,943,288	400,316,867
American Waterworks & Electric Co. Inc.	27,800	1,295	2,160,000	406,314	627,800	473,097	2,110,057	36,556,960	40,321,335	(d)	254,510,716	281,817,573
New England Power Assn. (Consolidated)	(d)	(d)	1,757,600	527,784	711,014	587,900	2,081,542	46,527,324	55,436,338	246,984,041	372,751,194	415,681,484
PERCENTAGE RELATIONSHIP OF ABOVE TNACO. SYSTEMS COMBINED TO LARGEST OTHER SYSTEM SHOWN	61.5%	45.0%	52.1%	42.6%	68.8%	76.5%	74.2%	42.5%	41.2%	55.8%	48.5%	49.6%

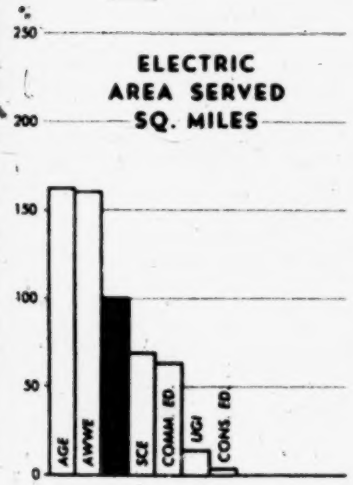
a—Union Electric Company of Missouri and subsidiaries, plus St. Louis County Gas Company.
b—Undiversified.
c—Taken as Total Utility Plant.
d—Published data not available.
e—Also includes unclassified utility plant of Western United Gas & Electric Company.
f—Includes Philadelphia Electric Company and subsidiaries; Delaware Electric Power Company and subsidiaries; Chester County Light & Power Company; and Consumers Gas Company.

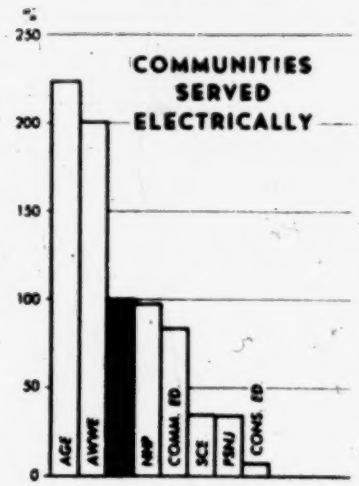
THE NORTH AMERICAN COMPANY

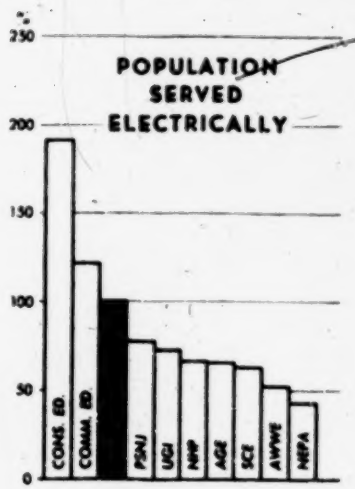
UNION ELECTRIC, WISCONSIN-MICHIGAN AND CLEVELAND SYSTEMS

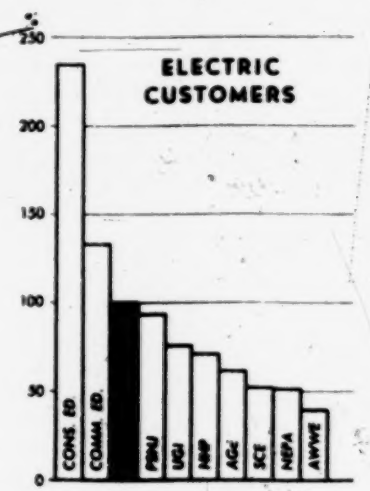
COMPARISON WITH CERTAIN OTHER SYSTEMS

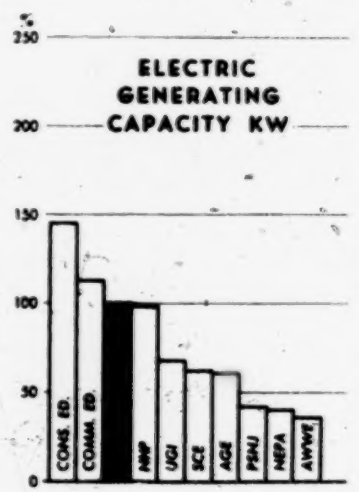
(Data are for year 1939 o as of December 31, 1939.
In all cases plotted relative to Combined Union Electric, Wisconsin-Michigan and Cleveland Systems = 100)

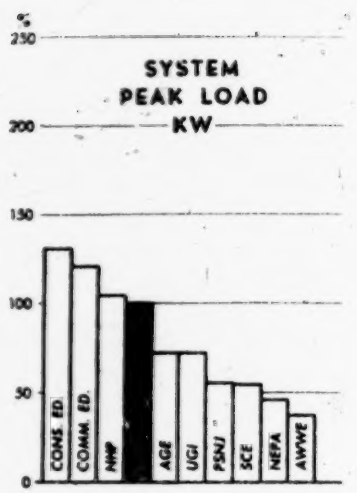


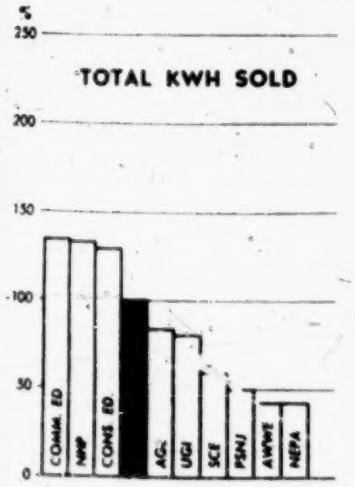


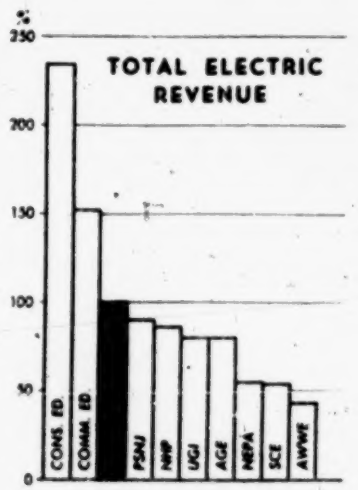


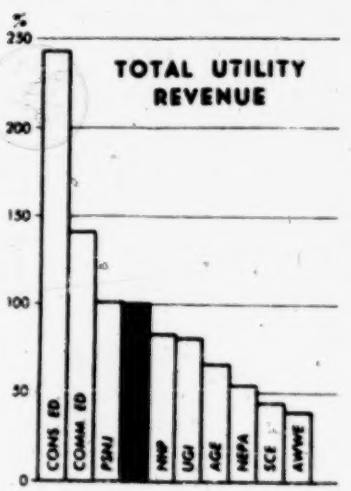


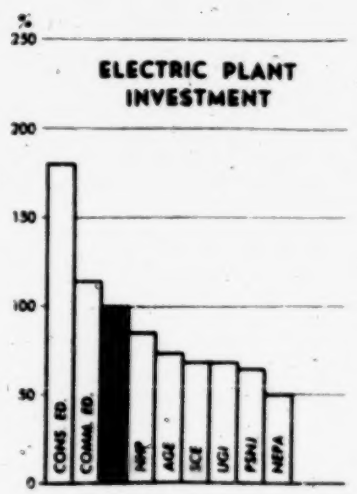


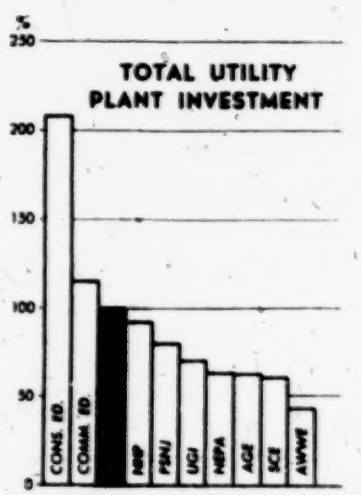


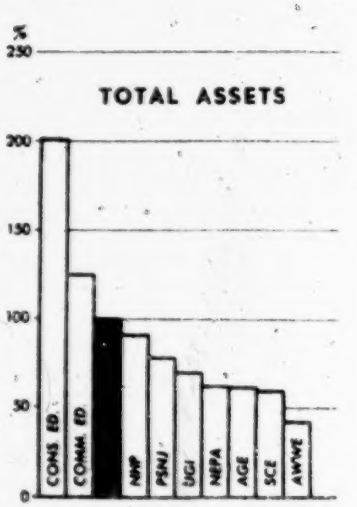












THE NORTH AMERICAN COMPANY

■ - Combined Systems

OTHER SYSTEMS

AGE - American Gas and Electric Co. - Central System
AWWE - American Water Works and Electric Co., Inc.
COMM. ED. - Commonwealth Edison Co. System
CONS. ED. - Consolidated Edison Co. of N.Y., Inc. System
NHP - Niagara Hudson Power Corporation
PSNJ - Public Service Electric Gas Co. (N.J.)
SCE - Southern California Edison Co., Ltd.
UGI - United Gas Improvement

Petitioners' Exhibit No. 124

THE NORTH AMERICAN COMPANY

UNION ELECTRIC, WISCONSIN-MICHIGAN AND CLEVELAND SYSTEMS

COMPARISON OF AVERAGE RESIDENTIAL MONTHLY BILLS AS OF JANUARY 1, 1940 WITH AVERAGE BILLS OF ALL ELECTRIC UTILITIES, PRIVATELY OWNED AND MUNICIPAL, IN SAME STATE (a)

	All Communities			Population Size—Group: 50,000 and More			10,000 to 50,000			2,500 to 10,000		
	25 KWH	100 KWH	250 KWH	25 KWH	100 KWH	250 KWH	25 KWH	100 KWH	250 KWH	25 KWH	100 KWH	250 KWH
UNION ELECTRIC SYSTEM												
MISSOURI												
State Average, excluding TNACo. Properties (b)	$1.58	$4.19	$7.85	$1.30	$3.68	$7.38	$1.47	$3.90	$7.57	$1.66	$4.35	$7.80
Union Electric System	1.21	3.17	6.30	1.19	3.13	6.22	1.19	3.13	6.22	1.31	3.46	6.92
WISCONSIN-MICHIGAN SYSTEM												
WISCONSIN												
State Average, Excluding TNACo. Properties	1.74	4.17	7.31	1.10	2.60	5.10	1.71	4.19	7.41	1.68	3.99	7.02
TNACo. Present Properties (f)	1.46	3.51	6.38	1.43	3.42	6.30	1.48	3.63	6.51	1.52	3.77	6.64
CLEVELAND ELECTRIC ILLUMINATING SYSTEM												
OHIO												
State Average, Excluding TNACo. Properties	1.25	3.68	7.03	1.14	3.35	6.34	1.33	3.86	7.53	1.28	3.96	7.60
TNACo. Present Properties	1.00	3.75(c)	7.25(d)	1.00	3.75(c)	7.25(d)	1.00	3.75(c)	7.25(d)	1.00	3.75(c)	7.25(d)
ABOVE SYSTEMS COMBINED												
THREE STATES (MO. WIS. OHIO)												
Three State Average, excluding TNACo. Properties as above	1.39	3.86	7.24	1.18	3.41	6.56	1.44	3.95	7.50	1.45	4.04	7.50
Average, Combined TNACo. Systems above (f)	1.21	3.49	6.68	1.19	3.45	6.63	1.25	3.59	6.74	1.25	3.63	6.97
	Percentage of State Averages—Excluding TNACo. Properties											
UNION ELECTRIC SYSTEM												
MISSOURI												
Union Electric System	77	76	80	92	85	84	81	80	82	79	80	89
WISCONSIN-MICHIGAN SYSTEM												
WISCONSIN												
TNACo. Present Properties (f)	84	84	87	130	132	124	87	87	88	90	94	95
CLEVELAND ELECTRIC ILLUMINATING SYSTEM												
OHIO												
TNACo. Present Properties	80	102(e)	103(e)	88	112(e)	114(e)	75	97(e)	96(e)	78	95(e)	95(e)
ABOVE SYSTEMS COMBINED												
THREE STATES (MO. WIS. OHIO)												
Average, Combined TNACo. Systems above (f)	87	90	92	101	101	101	87	91	90	86	90	93

a—Based on data published by Federal Power Commission in State Rate Reports; averages weighted by population.

b—Excludes Union Electric Company of Missouri and Missouri Power & Light Company.

c—Reduced to $3.35 effective July 7, 1940.

d—Reduced to $6.73 effective July 7, 1940.

e—Percentages would be reduced due to effect of rate reduction of July 7, 1940. If the Cleveland System rate filed July 7th had been in effect January 1, 1940 the relationship to State average would have been reduced to 89 per cent of the percentage shown at 100 kwh. and to 93 per cent at 250 kwh.

f—Without giving effect to "10 for 1" plan of Wisconsin Electric Power Company.

1,000 to 2,500			250 to 1,000		
25 KWH	100 KWH	250 KWH	25 KWH	100 KWH	250 KWH
$2.04	$5.08	$8.80	$2.23	$5.42	$9.14
1.33	3.47	6.89	1.42	3.52	6.79
1.80	4.24	7.40	2.09	4.90	8.25
1.63	4.08	6.95	1.64	4.06	6.94
1.42	4.21	8.01	1.51	4.36	8.14
1.00	3.75(c)	7.25(d)	1.00	3.75(c)	7.25(d)
1.70	4.47	8.09	1.83	4.76	8.41
1.26	3.72	7.08	1.42	3.85	6.99
65	68	78	64	65	74
91	96	94	78	83	84
70	89(e)	91(e)	66	86(e)	89(e)
74	83	88	78	81	83

Petitioners' Exhibit No. 124

Sheet F

THE NORTH AMERICAN COMPANY

UNION ELECTRIC, WISCONSIN-MICHIGAN AND CLEVELAND SYSTEMS

COMPARISON OF OPERATING EXPENSES OTHER THAN PRODUCTION

(Data are for year 1938, and except as noted, are based on average number of customers)

	ELECTRIC OPERATING EXPENSE PER CUSTOMER (a)				
	Total Operating Expenses Other Than Production	Transmission and Distribution (i)	Customers Accounting and Collecting	Sales Promotion	Administrative and General
THE NORTH AMERICAN COMPANY					
UNION ELECTRIC SYSTEM	$15.18	$ 6.25	$2.68	$1.93	$ 4.32
WISCONSIN-MICHIGAN SYSTEM					
Wisconsin Electric Power Co.	13.23	5.80	2.30	2.22	2.91
Wisconsin Gas & Electric Co.	14.09	6.49	2.46	1.22	3.92
Wisconsin Michigan Power Co.	14.62	6.16	2.24	1.72	4.50
TOTAL WISCONSIN-MICHIGAN SYSTEM	13.53	5.97	2.33	1.98	3.25
CLEVELAND ELECTRIC ILLUMINATING CO. SYSTEM	18.62	8.46	3.00	2.22	4.94
COMBINED SYSTEMS	15.72	6.87	2.66	2.04	4.15
STATE AVERAGES, CLASS A AND B COMPANIES (g) (EXCLUDING TNACo. PROPERTIES)					
MISSOURI (13 companies) (b)	$19.95	$ 8.45	$3.44	$2.37	$ 5.69
ILLINOIS (11 companies) (c)	21.86	10.47	3.61	2.35	5.43
WISCONSIN (13 companies) (d)	18.69	7.65	2.76	2.27	6.01
MICHIGAN (9 companies) (e)	22.33	11.73	3.89	1.83	4.88
OHIO (14 companies) (f)	17.74	8.40	2.65	1.89	4.80
FIVE STATES AVERAGE (60 companies)	20.54	9.89	3.36	2.10	5.19
UNITED STATES CLASS A AND B COMPANIES (g) (EXCLUDING TNACo. PROPERTIES) (393 companies)	21.09	9.15	3.50	2.22	6.22
OTHER ELECTRIC SYSTEMS					
Consolidated Edison Co. of N. Y., Inc. System	$23.72	$ 7.94	$5.76	$2.48	$ 7.54
Commonwealth Edison Co. System (h)	22.67	10.67	3.83	2.45	5.72
Public Service Elec. & Gas Co. (N. J.) (h)	17.03	9.01	3.22	1.68	3.12
Southern California Edison Co. Ltd. (h)	15.95	6.99	3.37	1.59	4.00
Boston Edison Co. (h)	21.03	10.42	3.68	1.64	5.29
Consolidated Gas El. Lt. & Pr. Co. of Baltimore (h)	19.65	9.16	3.24	1.34	5.91
Duke Power Co.	19.67	10.16	2.32	1.28	5.91
Hartford Electric Light Co. (h)	27.57	9.88	3.97	3.43	10.29
AVERAGE, FOR ABOVE EIGHT SYSTEMS	21.64	9.01	4.42	2.15	6.06

a—Averages are weighted by number of customers.
b—Excludes Union Elec. Co. of Mo. and Missouri Pr. & Lt. Co.
c—Excludes Union Elec. Co. of Ill.; Ill. Iowa Pr. Co.; Kewanee P. S. Co. and Iowa Union Elec. Co.
d—Excludes Wis. Elec. Pr. Co.; Wis. Gas & Elec. Co. and Wis. Mich. Pr. Co.
e—Excludes Wis. Mich. Pr. Co.
f—Excludes Cleveland Electric Illuminating Co.
g—Class A and B Electric Utilities are those with annual electric revenues of $250,000 and above.
h—Based on customers at Dec. 31, 1938.
i—Transmission and Distribution combined as some companies do not segregate such data.

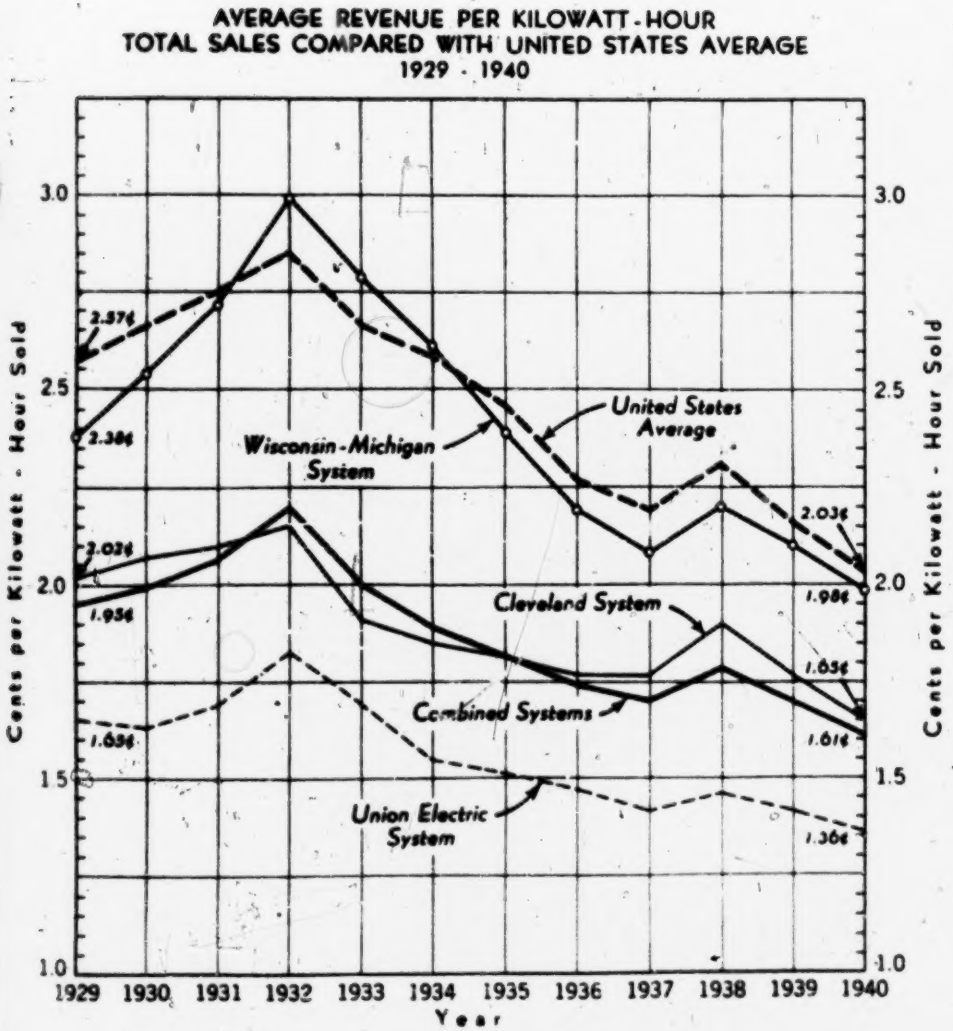

AVERAGE REVENUE PER KILOWATT-HOUR
TOTAL SALES COMPARED WITH UNITED STATES AVERAGE
1929 - 1940
Cents per Kilowatt - Hour Sold
Year
3.0
2.5
2.0
1.5
1.0
1929
1930
1931
1932
1933
1934
1935
1936
1937
1938
1939
1940
2.57¢
2.38¢
2.03¢
1.95¢
1.63¢
United States Average
Wisconsin-Michigan System
Cleveland System
Combined Systems
Union Electric System
2.03¢
1.98¢
1.65¢
1.61¢
1.36¢

CHART 1

THE NORTH AMERICAN COMPANY

UNION ELECTRIC, WISCONSIN-MICHIGAN AND CLEVELAND SYSTEMS

AVERAGE REVENUE PER KILOWATT-HOUR
RESIDENTIAL SALES COMPARED WITH UNITED STATES AVERAGE
1929 - 1940

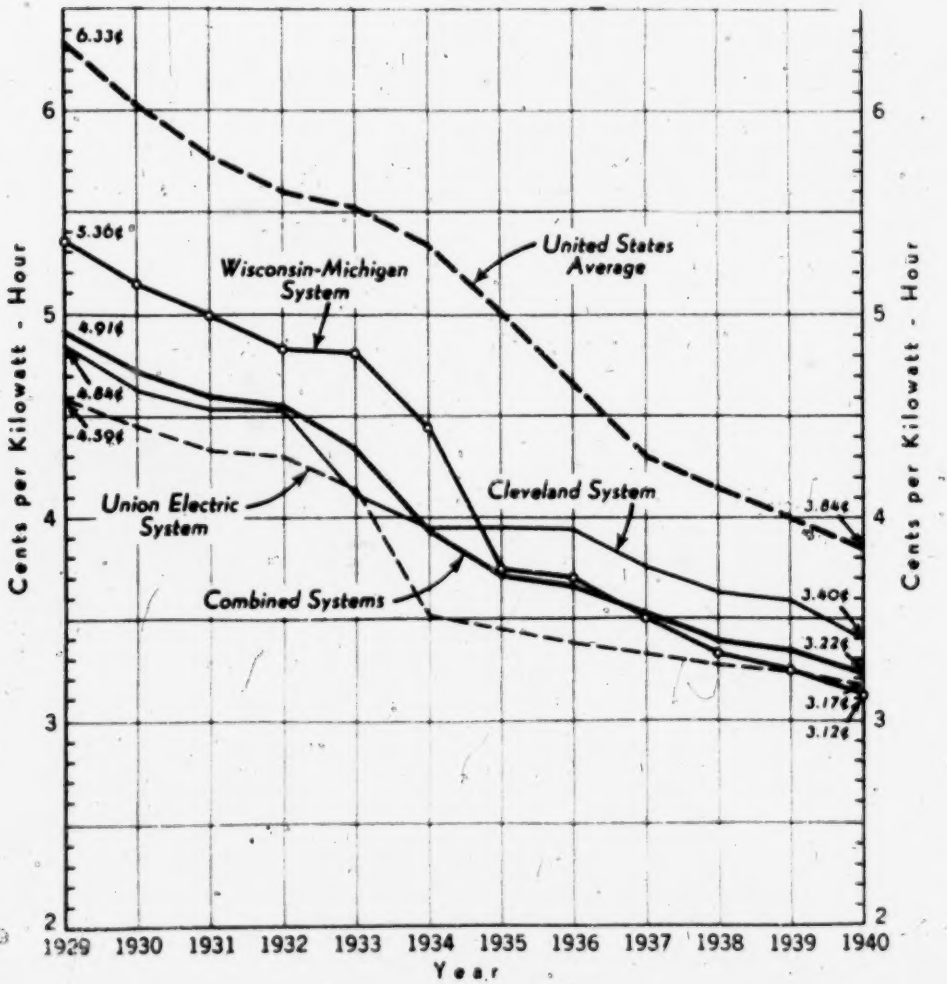


CHART 2

TREND OF OPERATING EXPENSES, INCLUDING PRODUCTION,
PER KILOWATT-HOUR SOLD
1926 - 1940

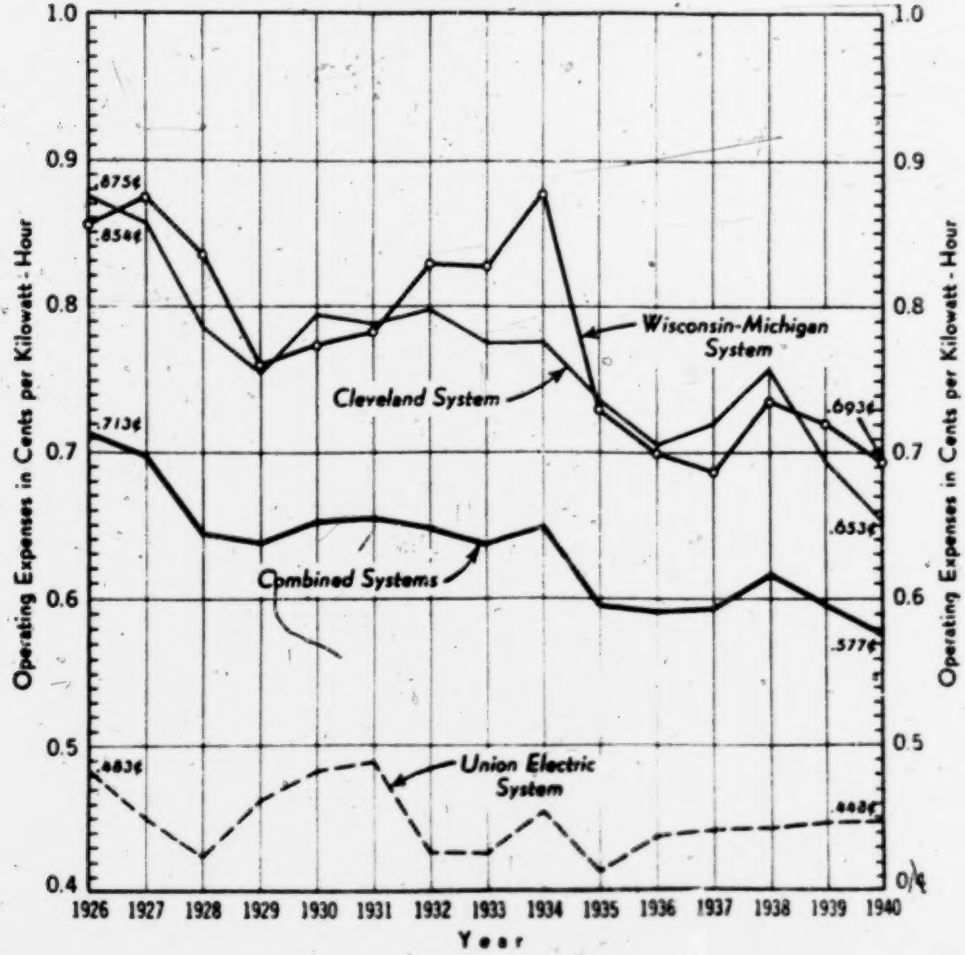


CHART 3

Petitioners' Exhibit No. 124

Sheet H

THE NORTH AMERICAN COMPANY

Union Electric, Wisconsin-Michigan and Cleveland Systems

Comparison of Depreciation Appropriations and Reserves

	Appropriation for Depreciation Percent of Property and Plant		Depreciation Reserve Ratio Percent of Property and Plant at December 31	
	1938	1939	1938	1939
The North American Company				
Union Electric System (a)	1.75	1.77	17.18	18.17
Wisconsin-Michigan System				
Wisconsin Electric Power Co.	2.35	2.31	27.11	28.65
Wisconsin Gas & Electric Co.	2.73	2.74	25.35	25.81
Wisconsin Michigan Power Co.	2.04	1.77	13.39	14.03
Total Wisconsin-Michigan System	2.49	2.41	25.99	27.03
Cleveland Electric Illuminating Co. System	2.46	2.71	20.75	22.21
Combined TNACo. Systems Above	2.15	2.21	20.71	21.85
Average for Electric and Gas Subsidiaries (177 companies for the year 1938 and 188 companies for the year 1939) of Registered Holding Companies (b)	1.72	1.90	10.05	10.85
Number of Electric and Gas Subsidiaries of Registered Holding Companies with percentages higher and percentages lower than Combined Above Systems of The North American Company (b)				
Number higher than Combined TNACo. Systems Above	50	66	11	11
Number lower than Co ubined TNACo. Systems Above	121	116	160	171
Number of companies with higher depreciation appropriation than Combined TNACo. Systems Above, which also have higher reserve ratios	10	9(c)	—	—

a—Includes Union Electric Company of Missouri and subsidiaries, plus The St. Louis County Gas Company.

b—Data from "Financial Statistics for Electric and Gas Subsidiaries of Registered Public Utility Holding Companies, Years 1938 and 1939", Securities and Exchange Commission.

c—Of these, two have natural gas production facilities requiring depletion reserves and a third has natural gas gathering lines.

Petitioners' Exhibit No. 124

THE NORTH AMERICAN COMPANY

Relative Size Compared with Certain Other Enterprises in the United States

(Data are as of December 31, 1939, or for year 1939 or nearest fiscal year, except where noted)

	Total Assets	Total Assets of Industry Group (a) of Which Company Is a Part	% of Total Assets of Industry or Industry Group (a)	Annual Sales or Revenues	% of Total
1. The North American Co. and Subs. consolidated (b)	$ 939,698,000	$17,355,000,000(c)	5.4	$ 132,781,000(d)	$
2. Union Elec. (s) Wisc.-Mich. and Cleveland Systems	672,121,000	17,355,000,000(c)	3.9	104,900,000(d)	
3. General Motors Corp.	1,323,382,000(g)	2,428,347,000(g)	54.5	1,402,903,000(g)	
4. United States Steel Corp.	1,768,524,000(k)	4,113,538,000(k)	43.0	904,152,000(k)	
5. Standard Oil Co. (New Jersey)	2,034,989,000(o)	8,108,000,000(p)	25.1	933,766,000(o)	
6. General Electric Co.	392,223,000(h)	Not available	—	313,490,000(h)	
7. American Telephone and Telegraph Co.	5,227,362,000(w)	6,374,924,000(A)	82.1	1,132,110,000(w)	
8. Pennsylvania Railroad Co.	2,359,209,000(D)	27,453,156,000(B)	8.6	467,795,000(D)	
9. E. I. duPont de Nemours & Co.	735,824,000(F)	1,792,325,000(F)	41.0	298,833,000(F)	
10. International Harvester Co.	402,434,000(I)	759,623,000(I)	52.9	267,027,000(I)	
11. Sears Roebuck & Co.	323,687,000(J)	625,490,000(J)	51.8	617,414,000(J)	
12. Great Atlantic & Pacific Tea Co. of America	195,655,000(h)	—	—	990,358,000(h)	1

(a)—Where data for entire industry are not reported, totals are for major portion of the industry as noted.
(b)—Includes utility and non-utility subsidiaries plus investments.
(c)—Compiled from FPC statistics; represents entire electric utility industry.
(d)—Operating and non-operating revenues.
(e)—Of these, 5 have since been dissolved.
(f)—Of these, 3 have since been dissolved.
(g)—Survey of American Listed Corporations (SEC). Supplement No. 4, August 1940; totals are for nine companies reported plus Ford Motor Company.
(h)—Moody's Industrial Manual, 1940.
(i)—Exclusive of 64 foreign operations.
(j)—Includes 64 foreign corporations and 309 retail distribution subsidiaries.
(k)—Survey of American Listed Corporations (SEC). Supplement No. 3, August 1940; totals are for twelve companies with assets over $100,000,000 each.
(l)—Poor's Industrial Manual 1940.
(m)—Exclusive of 6 foreign operations.
(n)—Includes 6 foreign corporations.
(o)—Survey of American Listed Corporations (SEC). Supplement No. 12, October 1940.
(p)—Source (o) above, 20 companies with assets over $50,000,000. Estimated by TNEC (Hearings Part 14A, pp. 7738, 7766) that these comprise 66⅔ percent of the entire petroleum industry.
(q)—Exclusive of 169 foreign operations and exclusive of retailing operations in the United States.
(r)—Includes 169 foreign corporations.
(s)—The St. Louis County Gas Company included with Union Electric system.
(t)—Electrical World, Jan. 13, 1940, page 96(120).

Annual Sales or Revenues	Total Annual Sales or Revenues of Industry Group (a) of Which Company Is a Part	% of Total Annual Sales or Revenues of Industry or Industry Group (a)	Number of Employees	Number of States in Which Operations Are Carried On	Number of Subsidiaries (Over 50% Voting Control)	Location of Executive Office	Distance from Executive Office to Furthest Distant Center of Operation in U. S.
$ 132,781,000(d)	$ 2,678,000,000(C)	5.0	21,074	10	43(e)	New York City	1,450
104,900,000(d)	2,678,000,000(C)	3.9	14,291	6	25(f)	New York City	1,125
1,402,903,000(g)	2,804,084,000(g)	50.0	220,000(h)	11(i)	413(j)	Detroit, Mich.	2,140
904,152,000(k)	2,254,791,000(k)	40.1	224,000(l)	23(m)	136(n)	New York City	2,480
933,766,000(o)	4,337,000,000(p)	21.6	134,000(h)	19(q)	227(r)	New York City	1,750
313,490,000(h)	2,143,000,000(t)	14.6	63,000(h)	14(u)	78(v)	Schenectady, N. Y.	2,480
1,132,110,000(w)	1,426,118,000(A)	79.4	297,000(x)	48(x)	31(y)	New York City	2,600
467,795,000(D)	3,995,004,000(B)	11.7	100,000(D)	13(D)	110(E)	Philadelphia, Pa.	840
298,833,000(F)	983,841,000(F)	30.4	55,000(h)	25(h)	21(H)	Wilmington, Del.	2,550
267,027,000(I)	533,418,000(I)	50.1	45,000(h)	8(K)	29(G)	Chicago, Ill.	1,760
617,414,000(J)	1,179,907,000(J)	52.3	72,000(h)	47(L)	37(H)	Chicago, Ill.	1,760
990,358,000(h)	11,548,000,000(z)	8.6	86,000(h)	39(h)	18(h)	New York City	2,540

(u)—Exclusive of 46 foreign operations.
(v)—Includes 46 foreign corporations.
(w)—AT&T Annual Report 1940.
(x)—Poor's Public Utility Manual, 1940.
(y)—Principal subsidiaries only.
(z)—"Retail Trade—U. S. 1939"—Bureau of Census, Dept. of Commerce 2/14/41.

(A)—Includes all domestic Communications Utilities, Poor's Public Utility Manual 1940 plus RCA from Poor's Industrial Manual, 1940.
(B)—ICC Preliminary Abstract of Railway Statistics 1938.
(C)—Revenue reported is operating revenue only; represents entire utility industry as compiled from FPC statistics.
(D)—Poor's Railroad Manual, 1940.
(E)—As of 12/31/36, latest data available, Poor's 1940 Railroad Manual.
(F)—Survey of American Listed Corporations (SEC). Supplement No. 26, December 1940; totals are for 21 corporations with assets over $10,000,000 each.
(G)—Includes 18 foreign corporations and three American corporations located abroad.
(H)—Includes three foreign corporations.
(I)—Survey of American Listed Corporations (SEC). Supplement No. 13, October 1940; totals are for ten companies.
(J)—Survey of American Listed Corporations (SEC). Supplement No. 16, October 1940; totals are for seven companies.
(K)—Exclusive of 18 foreign operations.
(L)—Retail operations. Also has plants in 14 states.

Petitioners' Exhibit No. 125

THE NORTH AMERICAN COMPANY

(Summary of Investments; extract from Respondents' Exhibit No. 125)

	Number of shares or principal amount owned by The North American Company	Carrying value December 31, 19[illegible]
Wisconsin Electric Power Company		
Preferred Stocks	72,204 shs.	$ 7,220,400.00
Common Stock	1,228,710 shs.	18,093,424.00
Wisconsin Gas & Electric Company		
Common Stock	300,000 shs.	6,000,000.00
Wisconsin Michigan Power Company		
Common Stock	300,000 shs.	6,774,615.46
Milwaukee Light, Heat & Traction Company		
Capital Stock		400,000.00
Union Electric Company of Missouri		
Common Stock	2,295,000 shs.	51,840,780.70
Laclede Power and Light Company		
Common Stock		404,040.89
Voting Trust Certificates		
Mississippi River Power Company		
6% Preferred Capital Stock Scrip		62.63
Common Stock		22,522.00
The St. Louis County Gas Company		
Capital Stock	41,000 shs.	4,100,000.00
The Cleveland Electric Illuminating Company		
Common Stock	1,347,908 shs.	38,417,339.04
Washington Railway and Electric Company		
Preferred Capital Stock	12,827 shs.	1,257,253.82
Common Capital Stock	50,197 shs.	10,272,456.27
Participating Units for Deposited Shares	255,201 ctfs.	1,305,631.44
Capital Transit Company		
Capital Stock	3,012 shs.	274,093.02
5% Notes maturing serially from 1937 to 1946	$180,000	180,000.00

Petitioners' Exhibit No. 125

THE NORTH AMERICAN COMPANY

(Summary of Investments; extract from Respondents' Exhibit No. 125)

	Number of shares or principal amount owned by The North American Company	Carrying value at December 31, 194[illegible]
Pacific Gas and Electric Company		
Common Stock	2,002,770 shs.	$ 63,765,418.62
The Detroit Edison Company		
Capital Stock	244,463 shs.	29,822,316.04
North American Light & Power Company		
$6 Preferred Stock	84,925 shs.	4,157,044.21
Common Stock	5,327,067 shs.	22,211,602.54
5½% Debentures, due July 1, 1956.	$7,263,000	4,896,518.41
Illinois Iowa Power Company (formerly Illinois Power and Light Corporation)		
5% Preferred Stock	4,700 shs.	155,795.13
Common Stock	4,700 shs.	53,085.75
Dividend Arrears Certificate	4,700 ctfs.	56,547.87
Bonds 6%, due April 1, 1953	$778,500	521,767.43
Bonds 5%, due December 1, 1956	$176,000	99,967.81
West Kentucky Coal Company (N. J.)		
7% Cumulative Preferred Stock		3,801,350.51
Common Stock		1.00
North American Utility Securities Corporation		
Second Preferred Stock	60,000 shs.	
Common Stock	376,151 shs.	1,703,757.38
60 Broadway Building Corporation		
Capital Stock		350,000.00
Associated Music Publishers, Inc.		
First Preferred Stock		450,000.00
3% Notes due April 27, 1940 and April 27, 1941		45,000.00
Contract Account		4,624,284.64
Communications Patents, Inc.		
Settlement Agreement		1.00
Wisconsin Securities Company (Del.)		
Capital Stock		1.00
		$283,277,079.51

Petitioners' Exhibit No. 126

THE NORTH AMERICAN COMPANY

	1936	1937	1938	1939	1940
Dividends Received from Pacific Gas & Electric Co.	$ 2,834,210.68	$ 4,005,540.00	$ 4,005,540.00	$ 4,005,540.00	$ 4,005,540.00
The Detroit Edison Co.	1,464,278.00	1,466,778.00	1,466,778.00	1,466,778.00	1,466,778.00
Total	$ 4,298,488.68	$ 5,472,318.00	$ 5,472,318.00	$ 5,472,318.00	$ 5,472,318.00
Gross Corporate Income	$17,124,763.51	$19,134,005.47	$16,139,262.20	$21,859,841.87	$21,616,887.13
Debenture Interest	$ 1,195,995.56	$ 1,195,650.00	$ 1,195,650.00	$ 2,509,335.62	$ 2,637,500.00
Preferred Dividends	1,819,077.00	1,819,077.00	1,819,077.00	3,643,821.87	3,821,400.19
Total	$ 3,015,072.56	$ 3,014,727.00	$ 3,014,727.00	$ 6,153,157.49	$ 6,458,900.19

9036

Petitioners' Exhibit No. 127

CAPITAL STRUCTURE OF UTILITY OPERATING SUBSIDIARIES (AND OF NORTH AMERICAN LIGHT & POWER COMPANY AND WASHINGTON RAILWAY AND ELECTRIC COMPANY, INTERMEDIATE HOLDING COMPANIES) AS OF DECEMBER 31, 1940

	Capital	% of Total Capital	Washington Railway and Electric Company's Investment: Par or Stated Value Owned	Washington Railway and Electric Company's Investment: % of Total Capital
Potomac Electric Power Company:				
Common Stock	$ 6,000,000.00	7.89	$ 6,000,000.00	7.89
Preferred Stock	7,000,000.00	9.20	—	—
Funded Debt	31,666,000.00	41.64	—	—
Surplus	31,381,504.65	41.27	31,381,504.65	41.27
Total	$ 76,047,504.65	100.00	$ 37,381,504.65	49.16
			The Washington and Rockville Railway Co. of Montgomery County's Investment	
Braddock Light & Power Company, Inc.:				
Common Stock	$ 192,500.00	94.43	$ 192,500.00	94.43
Surplus	11,348.13	5.57	11,348.13	5.57
Total	$ 203,848.13	100.00	$ 203,848.13	100.00
			The North American Company's Investment	
The Cleveland Electric Illuminating Company:				
Common Stock	$ 40,871,520.00	31.26	$ 32,490,741.83	24.85
Preferred Stock	25,498,900.00	19.51	—	—
Funded Debt	50,000,000.00	38.25	—	—
Surplus	14,359,027.86	10.98	11,414,683.54	8.73
Total	$130,729,447.86	100.00	$ 43,905,425.37	33.58

Petitioners' Exhibit No. 127

CAPITAL STRUCTURE OF UTILITY OPERATING SUBSIDIARIES (AND OF NORTH AMERICAN LIGHT & POWER COMPANY AND WASHINGTON RAILWAY AND ELECTRIC COMPANY, INTERMEDIATE HOLDING COMPANIES) AS OF DECEMBER 31, 1940

(Continued)

	Capital	% of Total Capital	The North American Company's Investment: Par or Stated Value Owned	The North American Company's Investment: % of Total Capital
North American Light & Power Company:				
Common Stock	$ 6,288,059.00	5.59	$ 5,327,067.00	4.74
Preferred Stock (Corporate)	18,555,021.00	16.50	8,115,074.45	7.22
Preferred Stock of Subsidiaries	18,878,100.00	16.79	—	—
Funded Debt (Consolidated)	53,125,700.00	47.25	7,263,000.00	6.45
Consolidated Surplus—Capital Surplus and deficit	15,594,665.44	13.87	9,152,841.63	8.14
Total	$112,441,545.44	100.00	$ 29,857,983.08	26.55
The St. Louis County Gas Company:				
Common Stock	$ 4,100,000.00	51.97	$ 4,100,000.00	51.97
Funded Debt	1,500,000.00	19.01	—	—
Surplus	2,288,948.42	29.02	2,288,948.42	29.02
Total	$ 7,888,948.42	100.00	$ 6,388,948.42	80.99
Union Electric Company of Missouri:				
Common Stock	$ 52,500,000.00	25.81	$ 52,500,000.00	25.81
Preferred Stock (Corporate)	13,000,000.00	6.39	—	—
Preferred Stock of Subsidiaries	8,234,475.00	4.05	62.50	—
Funded Debt (Corporate)	95,000,000.00	46.71	—	—
Funded Debt of Subsidiaries	19,270,500.00	9.48	—	—
Consolidated Surplus	15,379,175.61	7.56	15,379,175.61	7.56
Total	$203,384,150.61	100.00	$ 67,879,238.11	33.37

Petitioners' Exhibit No. 127

CAPITAL STRUCTURE OF UTILITY OPERATING SUBSIDIARIES (AND OF NORTH AMERICAN LIGHT & POWER COMPANY AND WASHINGTON RAILWAY AND ELECTRIC COMPANY, INTERMEDIATE HOLDING COMPANIES) AS OF DECEMBER 31, 1940

(Continued)

			The North American Company's Investment	
	Capital	% of Total Capital	Par or Stated Value Owned	% of Total Capital
Wisconsin Gas & Electric Company:				
Common Stock	$ 6,000,000.00	26.42	$ 6,000,000.00	26.42
Preferred Stock	3,342,500.00	14.72	—	—
Funded Debt	12,000,000.00	52.83	—	—
Surplus	1,369,877.71	6.03	1,369,877.71	6.03
Total	$ 22,712,377.71	100.00	$ 7,369,877.71	32.45
Wisconsin Electric Power Company:				
Common Stock	$ 13,959,280.00	11.16	$ 12,287,100.00	9.82
Preferred Stock	30,709,800.00	24.54	7,220,400.00	5.77
Funded Debt	67,000,000.00	53.54	—	—
Surplus	13,466,584.29	10.76	11,853,424.23	9.47
Total	$125,135,664.29	100.00	$ 31,360,924.23	25.06
Wisconsin Michigan Power Company:				
Common Stock	$ 6,000,000.00	25.08	$ 6,000,000.00	25.08
Preferred Stock	4,000,000.00	16.72	—	—
Funded Debt	12,980,000.00	54.24	—	—
Surplus	946,691.08	3.96	946,691.08	3.96
Total	$ 23,926,691.08	100.00	$ 6,946,691.08	29.04

Petitioners' Exhibit No. 127

CAPITAL STRUCTURE OF UTILITY OPERATING SUBSIDIARIES (AND OF NORTH AMERICAN LIGHT & POWER COMPANY AND WASHINGTON RAILWAY AND ELECTRIC COMPANY, INTERMEDIATE HOLDING COMPANIES) AS OF DECEMBER 31, 1940
(Continued)

			The North American Company's Investment	
	Capital	% of Total Capital	Par or Stated Value Owned	% of Total Capital
Washington Railway and Electric Company:				
Common Stock	$ 6,500,000.00	6.52	$ 5,657,702.50	5.68
Preferred Stock (Corporate)	8,500,000.00	8.53	1,282,700.00	1.29
Preferred Stock of Subsidiaries	7,000,000.00	7.02	—	—
Funded Debt (Corporate)	3,138,950.00	3.15	—	—
Funded Debt of Subsidiaries	31,666,000.00	31.78	—	—
Consolidated Surplus	42,853,027.03	43.00	37,299,950.48	37.42
Total	$ 99,657,977.03	100.00	$ 44,240,352.98	44.39
			North American Light & Power Company's Investment	
The Kansas Power and Light Co.:				
Common Stock	$ 10,500,000.00	18.65	$ 10,500,000.00	18.65
Preferred Stock	13,911,700.00	24.71	—	—
Funded Debt	29,480,000.00	52.35	—	—
Surplus	2,418,651.88	4.29	2,418,651.88	4.29
Total	$ 56,310,351.88	100.00	$ 12,918,651.88	22.94
Missouri Power & Light Company:				
Common Stock	$ 3,300,000.00	18.21	$ 3,300,000.00	18.21
Preferred Stock	5,000,000.00	27.60	329,800.00	1.82
Funded Debt	9,000,000.00	49.67	—	—
Surplus	819,040.74	4.52	819,040.74	4.52
Total	$ 18,119,040.74	100.00	$ 4,448,840.74	24.55

Petitioners' Exhibit No. 127

CAPITAL STRUCTURE OF UTILITY OPERATING SUBSIDIARIES (AND OF NORTH AMERICAN LIGHT & POWER COMPANY AND WASHINGTON RAILWAY AND ELECTRIC COMPANY, INTERMEDIATE HOLDING COMPANIES) AS OF DECEMBER 31, 1940

(Continued)

			North American Light & Power Company's Investment	
	Capital	% of Total Capital	Par or Stated Value Owned	% of Total Capital
Nebraska Natural Gas Company:				
Common Stock	$ 1,170,000.00	63.74	$ 1,170,000.00	63.74
Advanced by North American Light & Power Company	600,000.00	32.68	600,000.00	32.68
Surplus	65,661.28	3.58	65,661.28	3.58
Total	$ 1,835,661.28	100.00	$ 1,835,661.28	100.00
			Illinois Traction Company's Investment	
Kewanee Public Service Co.:				
Common Stock	$ 500,000.00	29.46	$ 500,000.00	29.46
Preferred Stock	350,000.00	20.63	74,800.00	4.41
Funded Debt	913,200.00	53.82	—	—
Deficit	—66,333.14	—3.91	—66,333.14	—3.91
Total	$ 1,696,866.86	100.00	$ 508,466.86	29.96
			Union Electric Co. of Missouri's Investment	
Union Electric Company of Illinois:				
Common Stock	$ 18,000,000.00	42.08	$ 18,000,000.00	42.08
Funded Debt	22,000,000.00	51.43	22,000,000.00	51.43
Surplus	2,775,375.48	6.49	2,775,375.48	6.49
Total	$ 42,775,375.48	100.00	$ 42,775,375.48	100.00

Petitioners' Exhibit No. 127

CAPITAL STRUCTURE OF UTILITY OPERATING SUBSIDIARIES (AND OF NORTH AMERICAN LIGHT & POWER COMPANY AND WASHINGTON RAILWAY AND ELECTRIC COMPANY, INTERMEDIATE HOLDING COMPANIES) AS OF DECEMBER 31, 1940

(Continued)

			Union Electric Co. of Missouri's Investment	
	Capital	% of Total Capital	Par or Stated Value Owned	% of Total Capital
Cupples Station Light, Heat and Power Company:				
Common Stock	$ 1,000,000.00	95.99	$ 1,000,000.00	95.99
Surplus	41,824.15	4.01	41,824.15	4.01
Total	$ 1,041,824.15	100.00	$ 1,041,824.15	100.00
Mississippi River Power Company:				
Common Stock	$ 16,000,000.00	33.04	$ 15,955,000.00	32.94
Preferred Stock	8,234,475.00	17.00	—	—
Funded Debt	18,570,500.00	38.34	—	—
Surplus	5,627,606.08	11.62	5,611,778.44	11.59
Total	$ 48,432,581.08	100.00	$ 21,566,778.44	44.53
Iowa Union Electric Company:				
Common Stock	$ 999,315.00	52.41	$ 999,315.00	52.41
Funded Debt	700,000.00	36.71	—	—
Surplus	207,469.72	10.88	207,469.72	10.88
Total	$ 1,906,784.72	100.00	$ 1,206,784.72	63.29
			Wisconsin Electric Power Company's Investment	
The Milwaukee Electric Railway and Transport Company:				
Common Stock	$ 25,000,000.00	70.14	$ 25,000,000.00	70.14
Funded Debt	10,000,000.00	28.05	10,000,000.00	28.05
Surplus	646,183.48	1.81	646,183.48	1.81
Total	[illegible]	[illegible]	[illegible]	[illegible]

Petitioners' Exhibit No. 128

THE NORTH AMERICAN COMPANY AND SUBSIDIARIES

Analysis of Consolidated Balance for Common Dividends and Surplus Showing Annual Deviations from Ten Year Average Figures, Expressed in Percentages (Note A)

	1931	1932	1933	1934	1935	1936	1937	1938
Balance for Common Dividends and Surplus of Subsidiary Companies:								
Wisconsin Electric Power Company and Subsidiaries (C)	$ 2,697,988	$ 1,224,816	$ 1,070,878	$ 1,046,437	$ 1,480,282	$ 2,073,177	$ 1,366,316	$ 1,427,839
Per Cent. deviation from 10 year average	+82.28	—17.25	—27.65	—29.30	—	+40.07	—7.69	—3.53
Wisconsin Gas & Electric Company	925,628	557,993	453,464	85,762	161,398	591,307	568,115	371,554
Per Cent. deviation from 10 year average	+91.22	+15.27	—6.32	—82.28	—66.66	+22.15	+17.36	—23.24
Wisconsin Michigan Power Company	455,086	209,147	141,792	136,685	122,976	463,161	537,999	511,017
Per Cent. deviation from 10 year average	+19.99	—44.87	—62.62	—64.02	—67.58	+22.09	+41.82	+34.71
Union Electric Company of Missouri and Subsidiaries	8,541,331	5,819,945	4,337,608	3,757,879	5,805,043	5,865,505	7,280,422	5,533,033
Per Cent. deviation from 10 year average	+43.71	—2.08	—27.02	—36.77	—2.33	—1.31	+22.49	—6.91
The St. Louis County Gas Company	559,429	471,081	389,336	320,939	394,456	428,229	433,776	402,042
Per Cent. deviation from 10 year average	+30.43	+9.80	—9.26	—25.20	—8.06	—.19	+1.10	—6.29
The Cleveland Electric Illumination Company and Subsidiaries	6,465,665	5,232,476	4,014,829	4,357,465	5,215,177	5,772,088	5,954,345	5,678,474
Per Cent. deviation from 10 year average	+15.37	—6.64	—28.36	—22.25	—6.95	+2.99	—6.24	+1.32
Washington Railway and Electric Company and Subsidiaries	4,255,107	3,671,552	3,492,177	3,226,114	3,130,676	3,495,827	3,855,970	3,121,218
Per Cent. deviation from 10 year average	+23.64	+6.69	+1.47	—6.26	—9.03	+1.58	+12.05	—9.30
Sub-Total Utility Subsidiaries	$23,900,234	$17,187,010	$13,900,084	$12,931,281	$16,310,008	$18,689,294	$19,996,943	$17,045,177
Per Cent. deviation from 10 year average	+34.56	—3.24	—21.74	—27.20	—8.17	+5.22	+12.58	—4.04
Average Per Cent. deviation from the 10 year average of the above subsidiaries computed without regard to sign, plus or minus	43.81	14.66	23.24	38.01	22.94	12.91	15.54	12.19
Other Subsidiaries—(not including holding and securities companies, Note D)	*—82,242*	*—184,850*	*—151,849*	65,946	*—80,346*	279,907	63,375	*—17,730*
Total Balance for Common Dividends and Surplus of the above subsidiaries	$23,817,992	$17,002,160	$13,748,235	$12,997,227	$16,229,662	$18,969,201	$20,060,318	$17,027,447
Minority Interest in Net Income of the above Subsidiaries	*—1,530,872*	*—1,200,400*	*—937,632*	*—983,306*	*—1,157,384*	*—1,334,785*	*—1,387,236*	*—1,298,978*
Net Holding Company Income, Etc.								
This item includes all income, other than Common Dividends from the above subsidiaries, of the holding and securities companies, after all expenses and all charges, other than interest charges and preferred dividends of The North American Company and North American Edison Company and includes certain minor adjustments made in consolidation	8,437,437	7,263,425	5,070,477	5,103,054	4,622,489	4,795,821	5,499,673	5,037,540
Total Consolidated Earnings available for Interest Charges and Dividends of The North American Company and North American Edison Company	$30,724,557	$23,065,185	$17,881,080	$17,116,975	$19,694,767	$22,430,237	$24,172,755	$20,766,009
Per Cent. deviation from 10 year average	+39.30	+4.57	—18.93	—22.40	—10.71	+1.69	+9.59	—5.85

1939 (Note A)	1940 (Note A)	Ten Year Total (Note B)	Ten Year Average (Note B)
$ 1,060,412	$ 1,353,276	$ 14,801,421	$ 1,480,142
—28.36	—8.57	244.70	24.47
546,361	579,065	4,840,647	484,065
+13.28	+19.63	357.41	35.74
568,022	647,622	3,793,507	379,350
+49.74	+70.72	478.16	47.82
6,389,265	6,104,796	59,434,827	5,943,483
+7.50	+2.71	152.83	15.28
449,413	441,788	4,290,489	429,049
+4.75	+2.97	98.05	9.81
6,184,731	7,168,837	56,044,087	5,604,409
+10.35	+27.91	128.38	12.84
3,240,144	2,925,543	34,414,328	3,441,433
—5.85	—14.99	90.86	9.09
$18,438,348	$19,220,927	$177,619,306	$17,761,931
+3.81	+8.21	128.77	12.88
17.12	21.07	221.49	22.15
—29	98,153	*—9,665*	*—967*
$18,438,319	$19,319,080	$177,609,641	$17,760,964
—1,407,915	*—1,898,186*	*—13,136,694*	*—1,313,669*
5,475,422	4,792,424	56,097,762	5,609,776
$22,505,826	$22,213,318	$220,470,709	$22,057,071
+2.03	+.71	115.78	11.58

Petitioners' Exhibit No. 128

THE NORTH AMERICAN COMPANY AND SUBSIDIARIES

Analysis of Consolidated Balance for Common Dividends and Surplus Showing Annual Deviations from Ten Year Average Figures, Expressed in Percentages (Note A)

	1931	1932	1933	1934	1935	1936	1937	1938	1939 (Note A)
Holding Company Interest Charges and Preferred Dividends	*$-8,271,640*	*$-8,469,470*	*$-8,149,412*	*$-8,144,595*	*$-8,083,089*	*$-7,505,693*	*$-7,489,351*	*$-7,476,079*	*$-6,715,439*
Consolidated Balance Available for Common Dividends and Surplus	$22,452,917	$14,595,715	$ 9,731,668	$ 8,972,380	$11,611,678	$14,924,544	$16,683,404	$13,289,930	$15,790,387
Per Cent. deviation from 10 year average	+56.20	+1.54	—32.30	—37.58	—19.22	+3.83	+16.06	—7.55	+9.85
Undistributed Earnings of Subsidiary Companies	*$-7,863,349*	*$-2,784,851*	*$-2,085,793*	*$ -791,609*	*$-1,587,785*	*$-1,940,342*	*$-1,762,709*	*$-1,428,435*	*$-2,293,455*
Corporate Balance available for Common Dividends and Surplus of The North American Company and North American Edison Company but excluding dividends received from Western Power Corporation in excess of balance available for the year	$14,589,568	$11,810,864	$ 7,645,875	$ 8,180,771	$10,023,893	$12,984,202	$14,920,695	$11,861,495	$13,496,932
Per Cent. deviation from 10 year average	+22.98	—.45	—35.55	—31.04	—15.51	+9.44	+25.77	—.02	+13.77
Add Back:									
Holding Company Interest Charges and Preferred Dividends	$ 8,271,640	$ 8,469,470	$ 8,149,412	$ 8,144,595	$ 8,083,089	$ 7,505,693	$ 7,489,351	$ 7,476,079	$ 6,715,439
Corporate Earnings available for Interest Charges and Dividends of The North American Company and North American Edison Company but excluding dividends received from Western Power Corporation in excess of balance available for the year	$22,861,208	$20,280,334	$15,795,287	$16,325,366	$18,106,982	$20,489,895	$22,410,046	$19,337,574	$20,212,371
Per Cent. deviation from 10 year average	+16.96	+3.76	—19.19	—16.48	—7.36	+4.83	+14.65	—1.07	+3.41

NOTES:

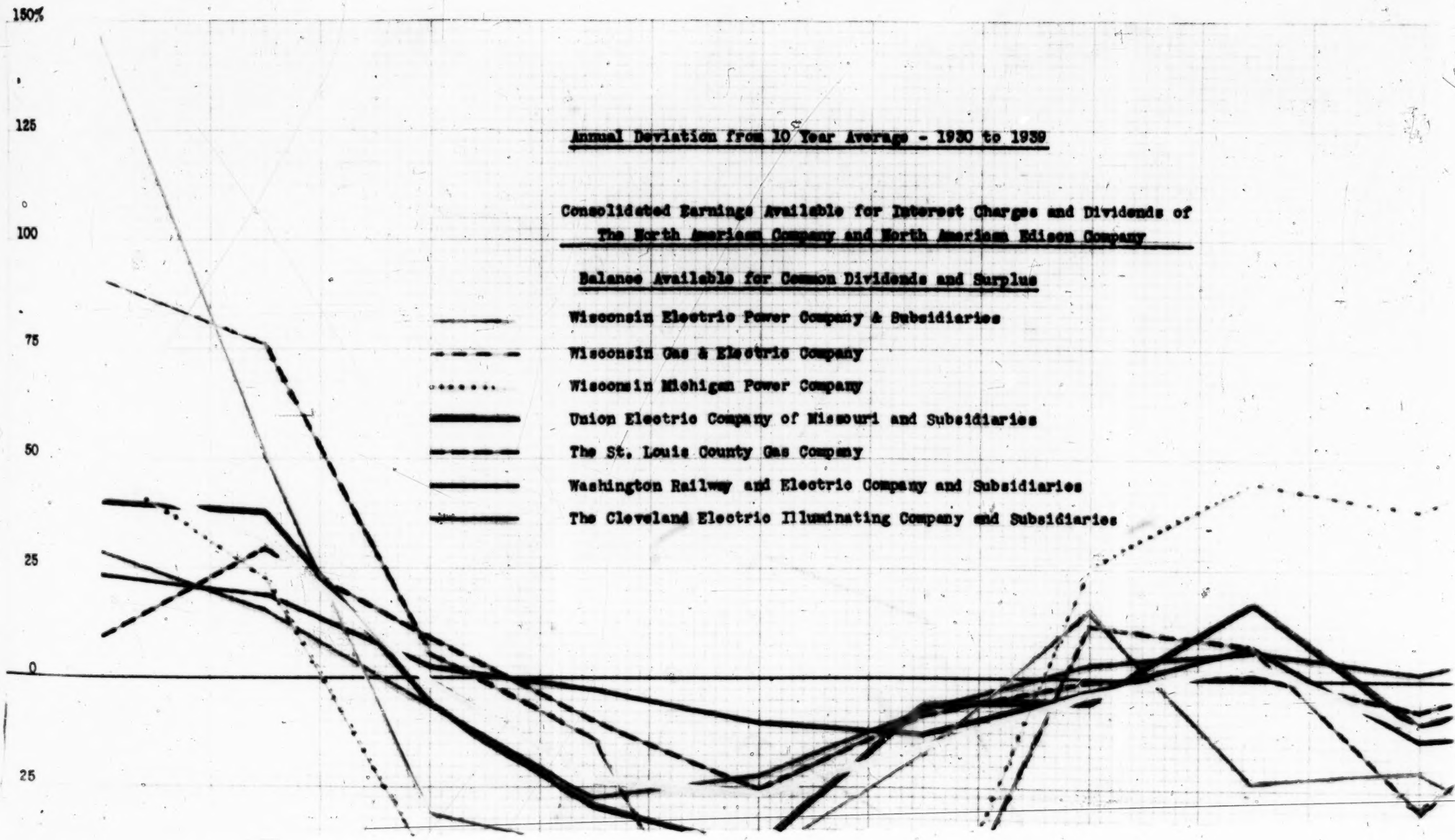
(A) The earnings for years 1939 and 1940 are on the basis of the former basis of consolidation, including Washington Railway and Electric Company and Subsidiaries and excluding North American Light & Power Company and Subsidiaries.

(B) The percentage deviation from the ten year average shown in this column is computed without regard to sign, plus or minus.

(C) Includes the former Wisconsin Electric Power Company prior to October 1938 when it was merged into the present Wisconsin Electric Power Company (formerly The Milwaukee Electric Railway and Light Company).

(D) Holding and securities companies referred to are, Edison Securities Corporation, Western Power Corporation and North American Utilities Securities Corporation. The net income of these companies after deducting all expenses and charges, including minority interest, is included in the item for Holding Company Other Net Income, etc.

1940 (Note A)	Ten Year Total (Note B)	Ten Year Average (Note B)
$-6,519,628	*$-76,824,396*	*$-7,682,440*
$15,693,690	$143,746,313	$14,374,631
+9.18	193.31	19.33
$-2,571,028	*$-25,109,356*	*$-2,510,936*
$13,122,662	$118,636,957	$11,863,695
+10.61	165.14	16.51
$ 6,519,628	$ 76,824,396	$ 7,682,440
$19,642,290	$195,461,353	$19,546,135
+.49	88.20	8.82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Annual Deviation from 10 Year Average - 1930 to 1939
Consolidated Earnings Available for Interest Charges and Dividends of
The North American Company and North American Edison Company
Balance Available for Common Dividends and Surplus
Wisconsin Electric Power Company & Subsidiaries
Wisconsin Gas & Electric Company
Wisconsin Michigan Power Company
Union Electric Company of Missouri and Subsidiaries
The St. Louis County Gas Company
Washington Railway and Electric Company and Subsidiaries
The Cleveland Electric Illuminating Company and Subsidiaries

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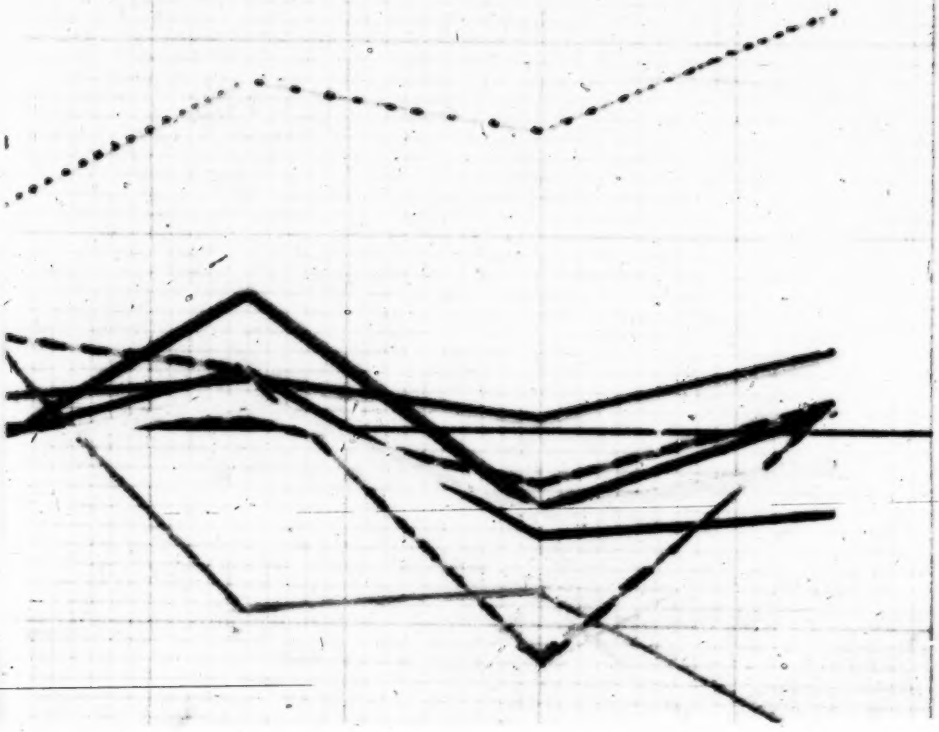

Consolidated Earnings Available for Interest Charges and Dividends of The North American Company and North American Edison Company

Balance Available for Common Dividends and Surplus

- Wisconsin Electric Power Company & Subsidiaries
- Wisconsin Gas & Electric Company
- Wisconsin Michigan Power Company
- Union Electric Company of Missouri and Subsidiaries
- The St. Louis County Gas Company
- Washington Railway and Electric Company and Subsidiaries
- The Cleveland Electric Illuminating Company and Subsidiaries

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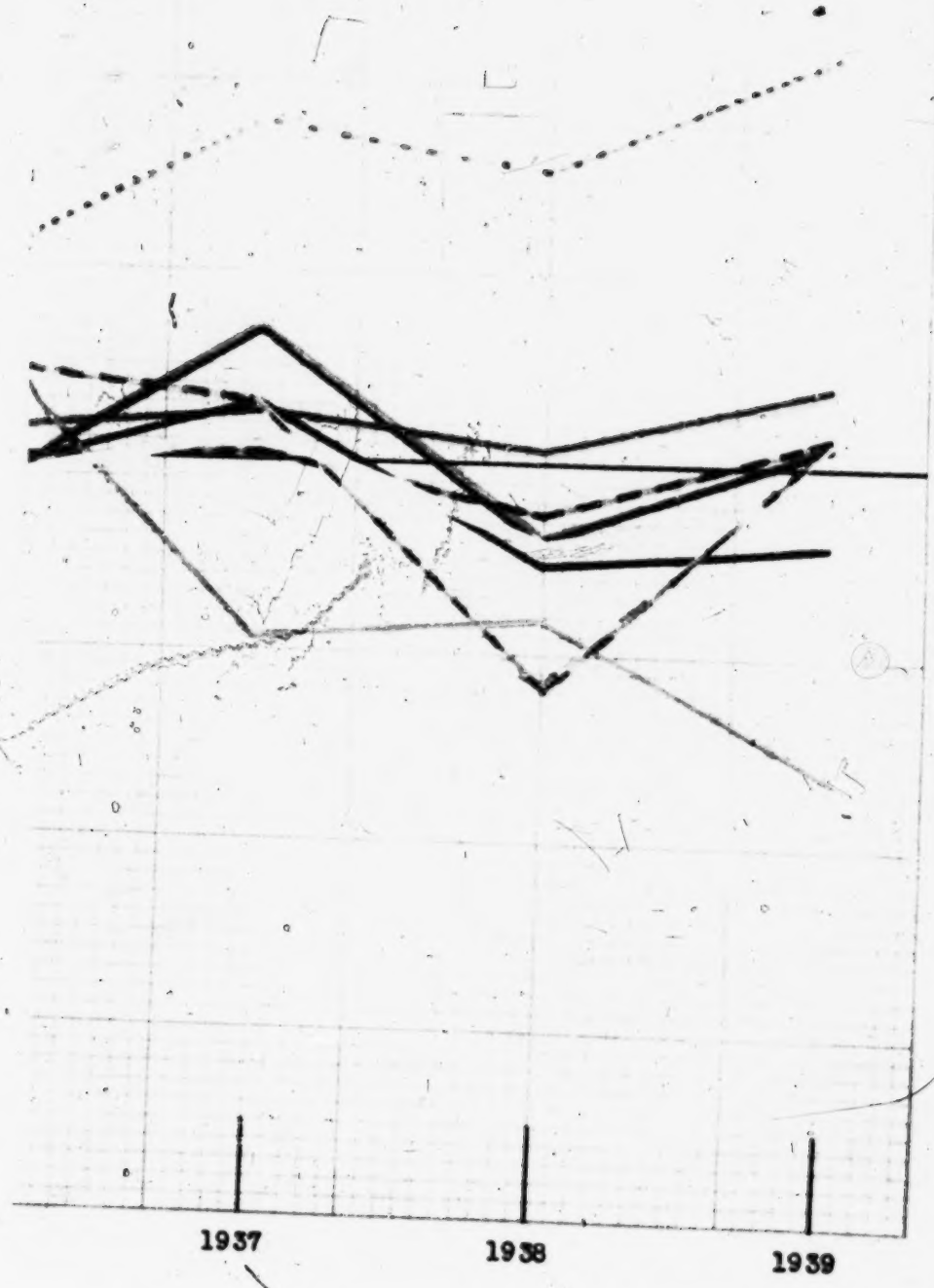
1930 1931 1932 1933 1934 1935 1936 1937 193


1937
1938
1939

Petitioners' Exhibit No. 130

SUBSIDIARY COMPANIES OF THE NORTH AMERICAN COMPANY

List of offerings of securities to the public through bankers and to institutional investors from September 14, 1920 to January 18, 1933 (the date of the last such offering prior to the passage of the Securities Act of 1933)

Date of Contract	Name of Company	Issue	Amount	Offering Price to Public	New Indenture or Amendment to Charter	Stock Exchange Listing	Purpose of Issue
9/14/20	The Milwaukee Electric Railway and Light Company	10 Year 8% Equipment Trust Certificate	$ 1,090,000	$100.00	New Agreement		New Capital
10/13/20	Wisconsin Electric Power Company	1st Mtge. 7½% Bonds	5,000,000	99.00	New Indenture		New Capital
5/10/21	The Milwaukee Electric Railway and Light Company	Refunding & 1st 7½% Bonds, Series A	5,000,000	95.00	New Indenture		New Capital
10/ 9/22	The Milwaukee Electric Railway and Light Company	Refunding & 1st 5% Bonds, Series B	12,500,000	92.25	New Supplemental	N. Y. S. E.	Refunding Old Bonds, and New Capital
8/29/23	The Milwaukee Electric Railway and Light Company	Refunding & 1st 6% Bonds, Series C	10,000,000	98.56	New Supplemental	N. Y. S. E.	Refunding Old Notes, and New Capital
1/22/24	Union Electric Light and Power Company of Illinois	1st Mtge. 5½% Bonds, Series A	10,000,000	95.75	New Indenture	N. Y. S. E.	New Capital
2/ 2/24	Wisconsin Electric Power Company	1st Mtge. 5% Bonds, Series A	9,000,000	91.25	New Indenture		Refunding Old Bonds, and New Capital
4/29/24	West Kentucky Coal Company	1st Mtge. 7% Bonds, Series A	5,000,000	100.00	New Indenture	N. Y. S. E.	Refunding Old Bonds, and New Capital
10/16/24	The St. Louis County Gas Company	1st Mtge. 5% Bonds, Series A	505,000	94.75	No		New Capital
11/14/24	The Cleveland Electric Illuminating Company	General Mtge. 5% Bonds, Series A	11,500,000	100.00	New Indenture		New Capital
11/26/24	Wisconsin Gas & Electric Company	1st Mtge. 5% Bonds, Series A	1,200,000	97.50	No		New Capital
12/ 8/24	Union Electric Light and Power Company	General Mtge. 5% Bonds, Series A	5,000,000	99.00	New Supplemental		New Capital.
9/26/25	West Kentucky Electric Power Company	1st Mtge. 5½% Bonds, Series A	1,000,000	92.50	New Indenture	Boston S. E.	Retirement of Indebtedness
10/ 1/26	The Cleveland Electric Illuminating Company	General Mtge. 5% Bonds, Series B	10,000,000	102.50	New Supplemental		New Capital
10/20/26	San Joaquin Light and Power Corporation	Unifying & Refunding 5% Bonds, Series D	25,000,000	98.50	No		Refunding Old Bonds, and New Capital
4 /4/27	Mississippi River Power Company	5% Debentures	3,000,000	96.25	New Indenture		Refunding Old Debentures and New Capital
6 /8/27	Midland Counties Public Service Company	1st Mtge. 5% Bonds, Series A	2,500,000	96.75	New Supplemental		Refunding and New Capital
6/23/27	Wisconsin Michigan Power Company	1st & Ref. Mtge. 5% Bonds	5,000,000	99.00	New Indenture		Acquisition of Property

Petitioners' Exhibit No. 130

SUBSIDIARY COMPANIES OF THE NORTH AMERICAN COMPANY

List of offerings of securities to the public through bankers and to institutional investors from September 14, 1920 to January 18, 1933 (the date of the last such offering prior to the passage of the Securities Act of 1933)

(Continued)

Date of Contract	Name of Company	Issue	Amount	Offering Price to Public	New Indenture or Amendment to Charter	Stock Exchange Listing	Purpose of Issue
7/19/27	Union Electric Light and Power Company	General Mtge. 5% Bonds, Series B	10,000,000	102.50	New Supplemental		New Capital
9/ 1/27	Union Electric Light and Power Company of Illinois	Junior Mtge. Serial Gold Note without interest	4,125,000 (B)	100.00	New Indenture		Acquisition of Property (Venice Plant)
11/ 7/27	The Milwaukee Electric Railway and Light Company	Refunding & 1st Bonds, 5% Series due 10/1/67	2,500,000 (P)	100.00	New Indenture		New Capital
1/21/29	The Milwaukee Electric Railway and Light Company	Refunding & 1st 5% Bonds, Series B	10,000,000	100.25	No		New Capital
1/30/29	Wisconsin Gas & Electric Company	1st Mtge. 5% Bonds, Series A	4,542,000	100.75	No		New Capital
12/17/29	Union Electric Light and Power Company	General Mtge. 5% Bonds, Series B	15,000,000	100.00	No		New Capital
12/19/29	The Milwaukee Electric Railway and Light Company	Refunding & 1st 5% Bonds, Series B	10,000,000	99.25	New Supplemental	N. Y. S. E.	Refunding and New Capital
1/ 9/31	The Milwaukee Electric Railway and Light Company	1st Mtge. 5% Bonds, Series due 1971	15,000,000	100.00	New Supplemental	N. Y. S. E.	Refunding and New Capital
6/24/31	Wisconsin Michigan Power Company	1st Mtge. 4½% Bonds, Series due 1961	5,000,000	100.50	New Supplemental		Refunding and New Capital
7/20/32	Union Electric Light and Power Company	General Mtge. Bonds, 5% Series due 4/1/57	15,000,000	94.00	New Supplemental	N. Y. S. E.	New Capital
10/10/32	Union Electric Light and Power Company	General Mtge. Bonds, 5% Series due 4/1/57	7,500,000	99.50	No	N. Y. S. E.	Refunding and New Capital
1/17/33	Union Electric Light and Power Company	General Mtge. Bonds, 4½% Series due 5/1/57	11,250,000	97.25	New Supplemental		Refunding Old Bonds & Notes

(B) Issued to vendors of the property acquired.

(P) Sold privately to institutional purchasers.

Petitioners' Exhibit No. 130

SUBSIDIARY COMPANIES OF THE NORTH AMERICAN COMPANY

List of offerings of securities to the public through bankers and to institutional investors from July 15, 1935 (the date of the first offering subsequent to the passage of the Securities Act of 1933) to date

Date of Contract	Name of Company	Issue	Amount	Offering Price to Public	Number of Principal Underwriters	New Indenture or Amendment to Charter	Stock Exchange Listing	Purpose of Issue	D: Co
7/15/35	The Cleveland Electric Illuminating Company	1st Mtge. Bonds, 3¼% Series due 1965	$40,000,000	$102.50	9	New Indenture	N. Y. S. E.	Refunding Old Bonds	10/
10/29/35	The Cleveland Electric Illuminating Company	$4.50 Preferred Stock, no par value	152,817 shs. (See Note A)	102.75	10	Charter Amended	N. Y. S. E.	Refunding Old Preferred	11/
11/21/35	The Kansas Power and Light Company	1st Mtge. Bonds, 4½% Series due 1965	30,000,000	103.00	13	New Indenture		Refunding Bonds, Subsidiary Bonds & Pfd. and Purchase of Property	2/
11/26/35	Missouri Power & Light Company	1st Mtge. 4¼% Bonds	800,000	—	P	No		New Capital	7/
11/14/35	Wisconsin Electric Power Company	1st Mtge. 4% Serial Bonds, Series B	7,500,000	100.00	P	New Supplemental		Refunding Old Bonds	7/
11/27/35	Wisconsin Electric Power Company	Serial Notes, 1½% to 3½%	2,500,000	—	P	No		Refunding Old Bonds and New Capital	7/
4/20/36	Wisconsin Gas & Electric Company	1st Mtge. Bonds, 3½% Series due 1966	10,500,000	101.50	12	New Indenture		Refunding Old Bonds	7/
May 1936	Capital Transit Company	Serial 5% Notes	300,000	—	L	Agreement		Acquisition of Property	11/
6/25/36	Potomac Electric Power Company	1st Mtge. Bonds, 3¼% Series due 1966	15,000,000	104.00	8	New Indenture	N. Y. S. E.	Refunding and New Capital	11/
7/31/36	Wisconsin Michigan Power Company	1st Mtge. Bonds, 3¾% Series due 1961	10,500,000	103.00	12	New Indenture		Refunding Old Bonds	12/
12/15/36	Missouri Power & Light Company	1st Mtge. Bonds, 3¼% Series due 1966	9,000,000	102.00	12	New Indenture		Refunding Old Bonds, and deposit under mortgage for new additions	11/
12/15/36	Missouri Power & Light Company	$6 Preferred Stock, no par value	15,000 shs.	101.50	12	No			2/
2/26/37	Capital Transit Company	Purchase Money Chattel Trust 4% Notes	1,507,000	—	L	Agreement		Purchase of Equipment	4/
6/28/37	Union Electric Company of Missouri	1st Mtge. & Coll. Trust Bonds, 3¼% Series due 1962	80,000,000	100.00	80	New Indenture	N. Y. S. E.	Refunding Bonds and Subsidiary Preferred	4/
6/28/37	Union Electric Company of Missouri	3% Notes	15,000,000	100.50	11	New Indenture			7/
11/17/37	Potomac Electric Power Company	1st Mtge. Bonds, 3¼% Series due 1966	5,000,000	—	P	No	N. Y. S. E.	New Capital	
11/17/37	Capital Transit Company	Installment 5% Note	99,000	—	L	Agreement		Purchase of Equipment	8/
12/ 2/37	Wisconsin Michigan Power Company	1st Mtge. 3¼% Bonds	2,000,000	—	P	New Supplemental		New Capital	9/
12/15/37	Wisconsin Michigan Power Company	3% Promissory Notes to Secure Bank Loan	700,000	—	L	No		New Capital	No
2/25/38	Capital Transit Company	Purchase Boney Chattel Trust, 4% Notes	991,000	—	L	Agreement		Purchase of Equipment	
10/ 4/38	Wisconsin Electric Power Company	3.40%* Promissory Notes to Secure Bank Loan	$14,500,000	—	L	Agreement		Refunding Old Bonds	

Petitioners' Exhibit No. 130

SUBSIDIARY COMPANIES OF THE NORTH AMERICAN COMPANY

List of offerings of securities to the public through bankers and to institutional investors from July 15, 1935 (the date of the first offering subsequent to the passage of the Securities Act of 1933) to date

Date of Contract	Name of Company	Issue	Amount	Offering Price to Public	Number of Principal Underwriters	New Indenture or Amendment to Charter	Stock Exchange Listing	Purpose of Issue
10/25/38	Wisconsin Electric Power Company	1st Mtge. Bonds, 3½% Series due 1968	55,000,000	$103.50	76	New Indenture	N. Y. S. E.	Refunding Old Bonds
11/27/38	Union Electric Company of Missouri	$5 Preferred Stock, no par value	130,000 shs.	106.00	41	Charter Amended	N. Y. S. E.	Refunding Old Preferred
2/15/39	Capital Transit Company	Purchase Money Chattel Trust 4% Notes	983,000	100.00	L	Agreement		Purchase of Equipment
7/14/39	Wisconsin Gas & Electric Company	2¾% Promissory Notes to Secure Bank Loan	1,500,000	100.00	L	Contract		Refunding Old Preferred
7/15/39	Wisconsin Gas & Electric Company	Preferred Stock, 4½% Series, $100 par value	33,425 shs.	100.00	10	Charter Amended		Refunding Old Preferred
7/19/39	The Kansas Power and Light Company	2¾% Promissory Notes to Secure Bank Loan	3,500,000	100.00	L	Contract		Refunding Old Bonds
7/24/39	The Kansas Power and Light Company	1st Mtge. Bonds, 3½% Series due 1969	26,500,000	108.50	36	New Indenture		Refunding Old Bonds
11/10/39	60 Broadway Building Corporation	3½% Promissory Note (Secured)	2,000,000	100.00	L	No		Refunding
11/ 7/39	Wisconsin Michigan Power Company	2½% Promissory Notes to Secure Bank Loan	620,000	100.00	3	Contract		Refunding Old Notes
12/ 6/39	Wisconsin Michigan Power Company	Preferred Stock, 4½% Series, $100 par value	40,000 shs.	100.00	12	Charter Amended		Refunding Old Preferred
11/30/39	Potomac Electric Power Company	1st Mtge. Bonds, 3¼ Series due 1974	5,000,000	105.31	P	New Supplemental		New Capital
2/23/40	Capital Transit Company	Purchase Money Chattel Trust 2% to 3% Notes	576,000	100.00	L	Agreement		Purchase of Equipment
4/15/40	The Kansas Power and Light Company	Preferred Stock, 4½% Series, $100 par value	139,169 shs.	103.00	40	Charter Amended		Refunding Old Preferred
4/20/40	Wisconsin Electric Power Company	Preferred Stock, 4¾% Series, $100 par value (Note B)	262,098 shs.	100.00	13	Charter Amended		Exchange for Old Preferred
7/ 9/40	The Cleveland Electric Illuminating Company	1st Mtge. Bonds, 3% Series due 1970	50,000,000	105.50	85	New Indenture	N. Y. S. E.	Refunding Old Bonds and New Capital
8/ 2/40	Potomac Electric Power Company	1st Mtge. Bonds, 3¼% Series due 1975	10,000,000	3,334,000 @ 108.804039 3,332,000 @ 108.766590 3,334,000 @ 108.729525	P	New Supplemental		New Capital
9/ 9/40	Capital Transit Company*	Purchase Money Chattel Trust 2% to 3% Notes	1,636,000	100.00	L	Agreement		Purchase of Equipment

Notes:

A—In addition to 152,817 shares offered by the company, North American Edison Company offered 82,408.4 shares received on reclassification.

B—Offering included 262,098 shares of Common Stock.

*—Amended March 6, 1940 to reduce 3.40% to 2⅝%.

P—Sold privately to institutional purchasers.

L—Issued to Banks to secure loan.

Petitioners' Exhibit No. 141

Sheet A

THE NORTH AMERICAN COMPANY

Comparison of Average Residential Monthly Bills in Cities of 50,000 Population (a) and More Served by Privately Owned Electric Utilities 1924 - 1941

North American System Compared with Averages of Subsidiaries of All Other Registered Holding Companies and Averages of Companies Not Subsidiaries of Registered Holding Companies (b)

Date	25 Kwh per Month			100 Kwh per Month			250 Kwh per Month		
	North American System (1)	Subsidiaries of All Other Registered Holding Companies (2)	Companies Not Subsidiaries of Registered Holding Cos. (3)	North American System (4)	Subsidiaries of All Other Registered Holding Companies (5)	Companies Not Subsidiaries of Registered Holding Cos. (6)	North American System (7)	Subsidiaries of All Other Registered Holding Companies (8)	Companies Not Subsidiaries of Registered Holding Cos. (9)
Oct. 1, 1924(c)	$1.74	$2.01	$1.98	$5.28	$6.21	$6.79	$10.39	$12.57	$16.57
Oct. 1, 1925	1.63	2.01	1.90	4.92	6.09	6.52	10.25	12.26	15.85
Oct. 1, 1926	1.60	1.99	1.89	4.81	5.85	6.44	9.92	11.59	15.70
Oct. 1, 1927	1.56	1.94	1.83	4.70	5.51	6.25	9.80	10.68	15.13
Oct. 1, 1928	1.53	1.90	1.75	4.42	5.37	6.00	8.83	10.25	14.18
Oct. 1, 1929	1.50	1.86	1.73	4.29	5.04	5.85	8.60	9.53	13.70
Oct. 1, 1930	1.45	1.83	1.71	4.07	4.86	5.73	8.13	9.25	13.32
Oct. 1, 1931	1.42	1.80	1.73	3.98	4.88	5.02	7.86	9.35	11.06
Oct. 1, 1932	1.41	1.76	1.72	3.92	4.77	4.98	7.80	9.09	10.96
Oct. 1, 1933	1.35	1.71	1.69	3.80	4.68	4.93	7.69	8.85	10.86
Jan. 1, 1935(d)	1.20	1.62	1.73	3.67	4.57	5.01	7.44	8.11	10.82
Jan. 1, 1936	1.16	1.52	1.68	3.61	4.22	4.57	7.29	7.76	8.44
Jan. 1, 1937	1.16	1.44	1.57	3.58	4.12	4.45	7.22	7.53	7.97
Jan. 1, 1938	1.16	1.41	1.57	3.44	4.03	4.44	6.47	7.37	7.96
Jan. 1, 1939	1.16	1.36	1.56	3.39	3.93	4.41	6.35	7.17	7.91
Jan. 1, 1940	1.16	1.31	1.53	3.37	3.81	4.37	6.34	6.90	7.84
Jan. 1, 1941(e)	1.14	1.31	1.49	3.18	3.84	4.26	6.11	7.01	7.64

a—Based on latest Census data for each year shown.
b—The Detroit Edison Company and Pacific Gas & Electric Company not included; status not finally determined.
c—The average bills for the years 1924 to 1933 are for 141 cities of 50,000 population and more, served by privately owned utilities.
d—The average bills for 1935 to 1940 are for 178 cities of 50,000 population and more, served by privately owned utilities.
e—The average bills for 1941 are for 186 cities of 50,000 population and more, served by privately owned utilities.

April 8, 1941

Petitioners' Exhibit No. 141

Sheet B

THE NORTH AMERICAN COMPANY

Comparison of Average Residential Monthly Bills in Cities of 50,000 Population (a) and More Served by Privately Owned Electric Utilities

1924 - 1941

North American System Compared with Averages of Subsidiaries of All Other Registered Holding Companies and Averages of Companies Not Subsidiaries of Registered Holding Companies (b)

Average Monthly Bill in Percentage of Average for Companies in North American System

Date	25 Kwh per Month			100 Kwh per Month			250 Kwh per Month		
	North American System (1)	Subsidiaries of All Other Registered Holding Companies (2)	Companies Not Subsidiaries of Registered Holding Companies (3)	North American System (4)	Subsidiaries of All Other Registered Holding Companies (5)	Companies Not Subsidiaries of Registered Holding Companies (6)	North American System (7)	Subsidiaries of All Other Registered Holding Companies (8)	Companies Not Subsidiaries of Registered Holding Companies (9)
Oct. 1, 1924(c)	100%	116%	114%	100%	118%	129%	100%	121%	159%
Oct. 1, 1925	100	123	117	100	124	133	100	120	155
Oct. 1, 1926	100	124	118	100	122	134	100	117	158
Oct. 1, 1927	100	124	117	100	117	133	100	109	154
Oct. 1, 1928	100	124	114	100	121	136	100	116	161
Oct. 1, 1929	100	124	115	100	117	136	100	111	159
Oct. 1, 1930	100	126	118	100	119	141	100	114	164
Oct. 1, 1931	100	127	122	100	123	126	100	119	141
Oct. 1, 1932	100	125	122	100	122	127	100	117	141
Oct. 1, 1933	100	127	125	100	123	130	100	115	141
Jan. 1, 1935(d)	100	135	144	100	119	137	100	109	145
Jan. 1, 1936	100	131	145	100	117	127	100	106	116
Jan. 1, 1937	100	124	135	100	115	124	100	104	110
Jan. 1, 1938	100	122	135	100	117	129	100	114	123
Jan. 1, 1939	100	117	134	100	116	130	100	113	125
Jan. 1, 1940	100	113	132	100	113	130	100	109	124
Jan. 1, 1941(e)	100	115	131	100	121	134	100	115	125

a—Based on latest Census data for each year shown.
b—The Detroit Edison Company and Pacific Gas & Electric Company not included; status not finally determined.
c—The average bills for the years 1924 to 1933 are for 141 cities of 50,000 population and more, served by privately owned utilities.
d—The average bills for 1935 to 1940 are for 178 cities of 50,000 population and more, served by privately owned utilities.
e—The average bills for 1941 are for 186 cities of 50,000 population and more, served by privately owned utilities.

April 8, 1941

Petitioners' Exhibit No. 141

Sheet C

THE NORTH AMERICAN COMPANY

Comparison of Average Residential Monthly Electric Bills in Cities of 50,000 Population and More (a)

January 1, 1941

North American System Compared with Certain Other Electric Systems Not Subsidiaries of Registered Holding Companies (b)

	Number of Cities of 50,000 Population and More	Aggregate Population in Cities of 50,000 Population and More (Census, 1940)	Average Monthly Bill (Weighted by population)			Per Cent Relationship to Average Bills of North American System		
			25 Kwh	100 Kwh	250 Kwh	25 Kwh	100 Kwh	250 Kwh
						%	%	%
North American System (d)	12	3,242,400	$1.14	$3.18	$6.11	100	100	100
Other Systems Not Subsidiaries of Registered Holding Companies								
Boston Edison Company (e)	3	942,866	$1.55	$4.90	$9.40	136	154	154
Commonwealth Edison Co. (f)	4	3,592,924	1.35	3.68	6.68	118	116	109
Consolidated Edison Co. of N. Y., Inc. (g)	4	7,548,922	1.65	4.72	8.00	145	148	131
Consolidated Gas Elec. Lt. & Pr. Co. of Baltimore (h)	1	859,100	1.06	3.78	7.68	93	119	126
Duke Power Company (i)	3	240,033	1.33	3.20	6.20	117	101	101
Eastern Gas and Fuel Associates (j)	1	770,816	1.55	4.90	9.40	136	154	154
Hartford Electric Light Co. (k)	1	166,267	1.75	3.62	6.95	154	114	114
Iowa Electric Light & Power Co. (l)	1	62,120	1.25	4.48	8.23	110	141	135
Iowa Public Service Co. (m)	1	51,743	1.25	4.30	8.30	110	135	136
Lynn Gas & Electric Co. (n)	1	98,123	1.53	4.28	8.53	134	135	140
Portland General Electric Co. (o)	1	305,394	.87	3.00	5.30	76	94	87
Public Service Corporation of New Jersey (p)	12	1,593,887	1.70	4.35	8.60	149	137	141
Queens Borough Gas & Electric Co. (q)	1	1,297,634	1.57	4.67	8.67	138	147	142
Sioux City Gas & Electric Co. (r)	1	82,364	1.18	4.11	7.91	104	129	129
Southern California Edison Co. Ltd. (s)	2	217,771	1.25	3.66	6.70	110	115	110
Tampa Electric Co. (t)	1	108,391	1.99	5.54	9.19	175	174	150
United Illuminating Co. (u)	2	307,726	1.31	3.88	6.88	115	122	113
Western Massachusetts Companies (v)	1	149,554	1.38	4.08	7.83	121	128	128
Weighted Average, Eighteen Systems Above	39 (c)	16,220,297 (c)	$1.49	$4.26	$7.64	131%	134%	125%

a—Based on monthly residential bills as published in Federal Power Commission "Typical Electric Bills —Cities of 50,000 Population and More—1941"

b—The Detroit Edison Co. and Pacific Gas & Electric Co. not included; status not finally determined.

c—Excluding duplications.

Cities of 50,000 population and more:

d—St. Louis, Mo., East St. Louis, Ill., Milwaukee, Racine, Wis., Topeka, Kan., Decatur, Ill., Des Moines, Ia., Cleveland, Lakewood and Cleveland Heights, Ohio, Washington. D. C., Arlington County, Va.

e—Boston, Somerville and Newton, Mass.

f—Chicago, Cicero, Evanston and Oak Park, Ill.

g—New York City, Yonkers, Mt. Vernon and New Rochelle, N. Y.

h—Baltimore, Md.

i—Charlotte, Winston-Salem, and Greensboro, N. C.

j—Boston, Mass. (Serves minority of customers)

k—Hartford, Conn.

l—Cedar Rapids, Ia.

m—Waterloo, Ia.

n—Lynn, Mass.

o—Portland, Ore. (Serves majority of customers)

p—Newark, Jersey City, Paterson, Trenton, Camden, Elizabeth, Bayonne, East Orange, Passaic, Union City, Irvington, Hoboken, N. J.

q—New York, N. Y. (Portion of Queens County)

r—Sioux City, Ia.

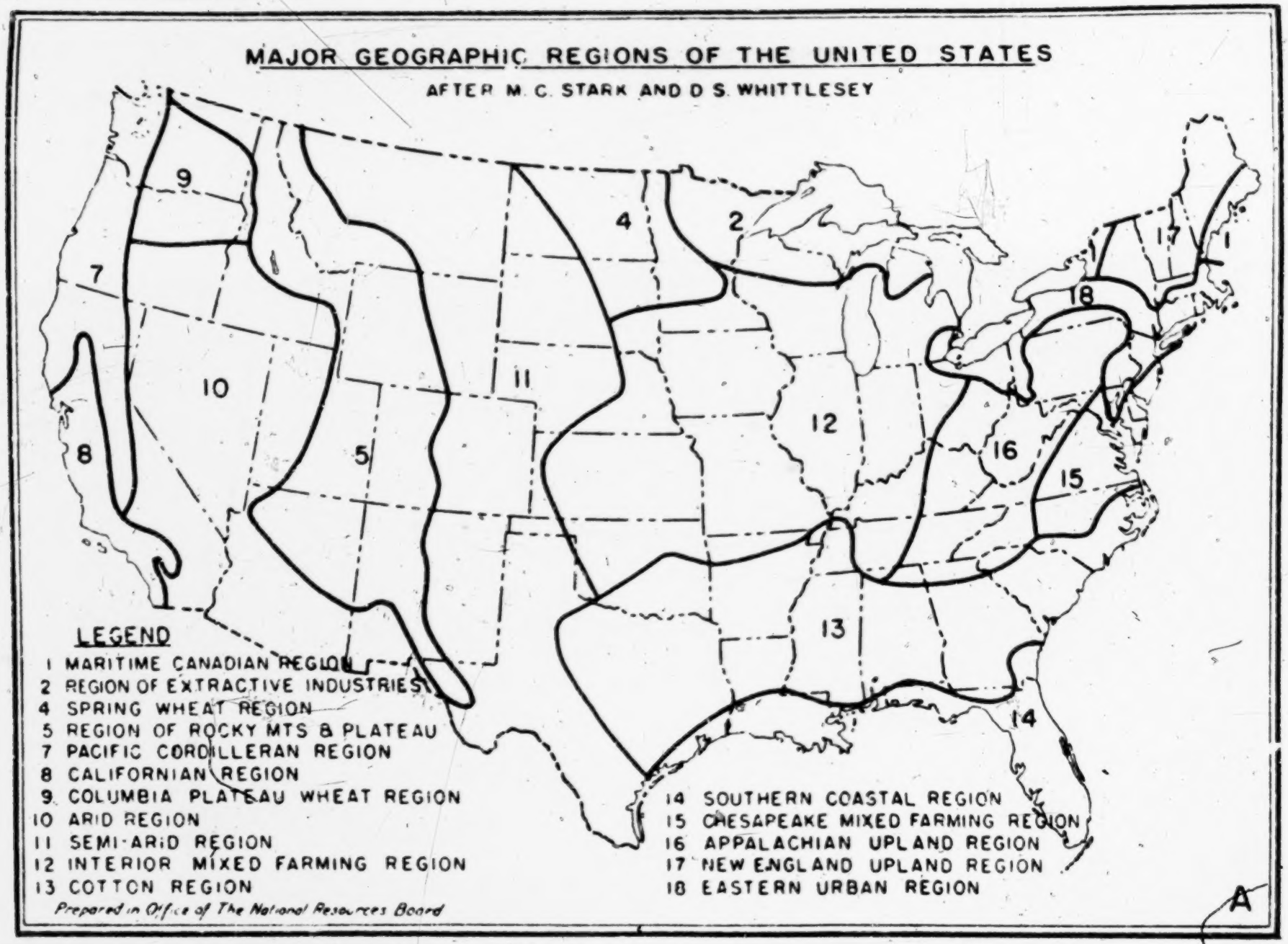
s—Long Beach and Santa Monica, Cal.

t—Tampa, Fla.

u—New Haven and Bridgeport, Conn.

v—Springfield, Mass.

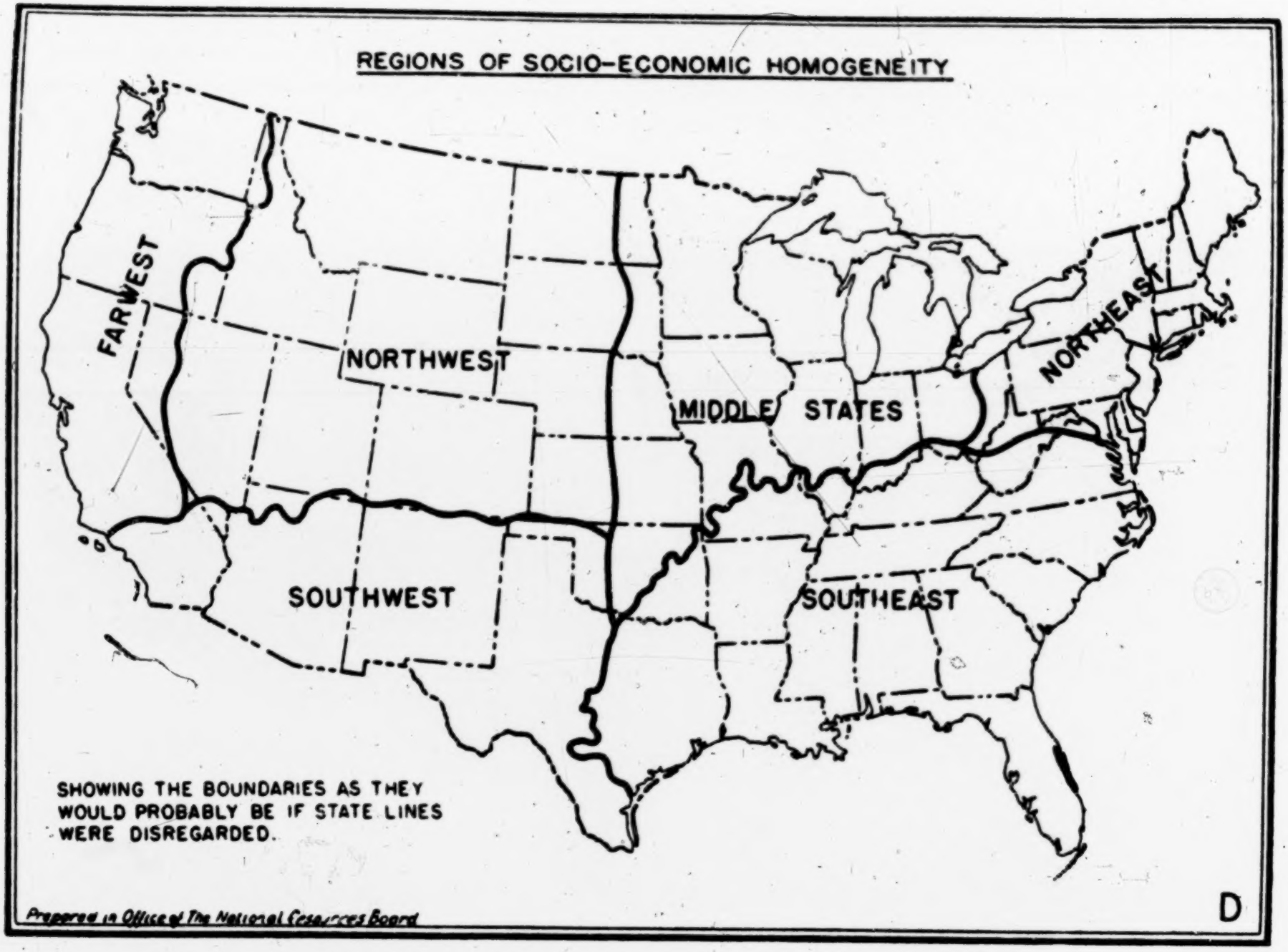
April 8, 1941



MAP 1: From "Regional Factors in National Planning and Development" p. 177.

MAP 2

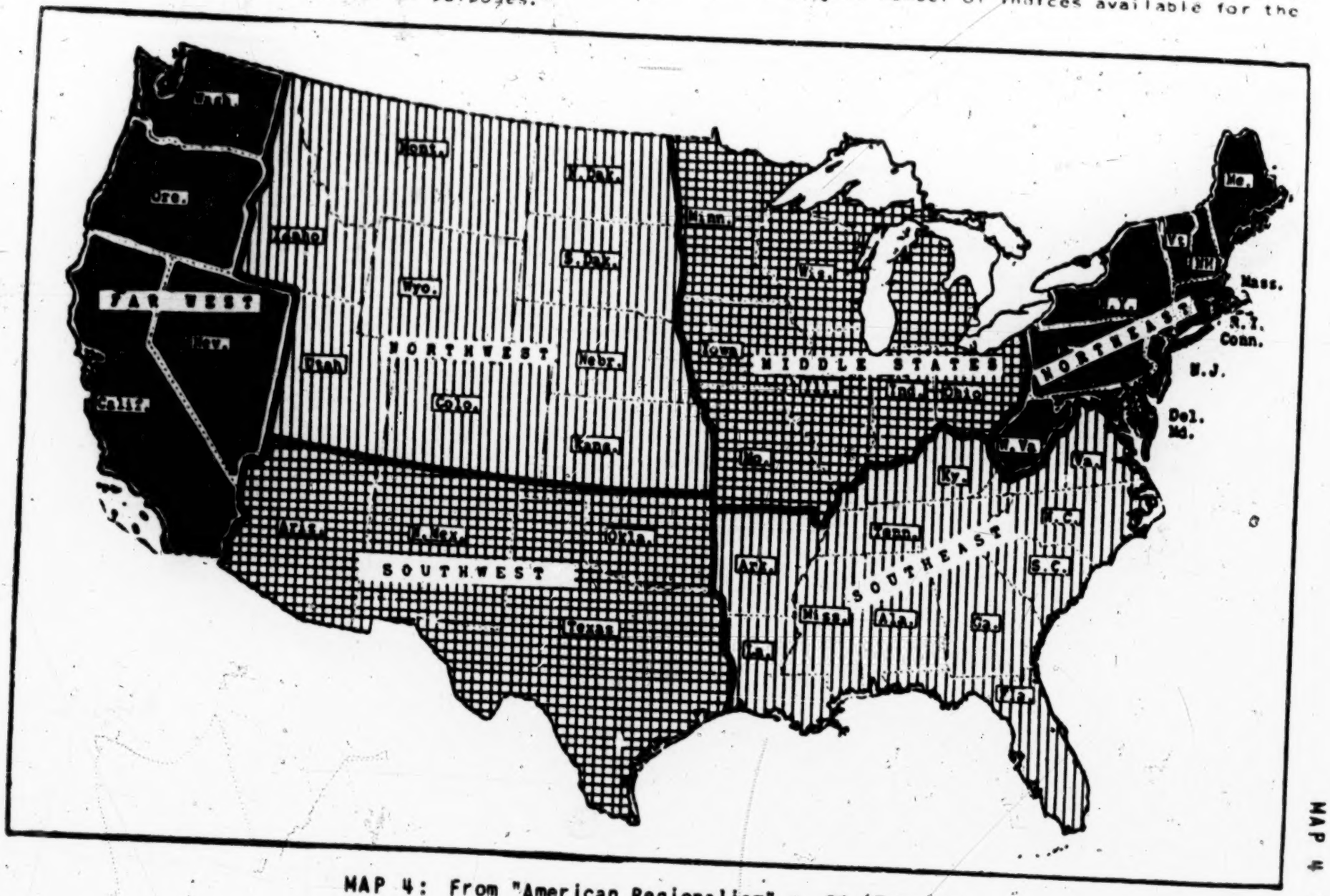
MAP 2: From "Regional Factors in National Planning and Development" p. 177.



MAP 3

MAP 3: From "Regional Factors in National Planning and Development" p. 177.

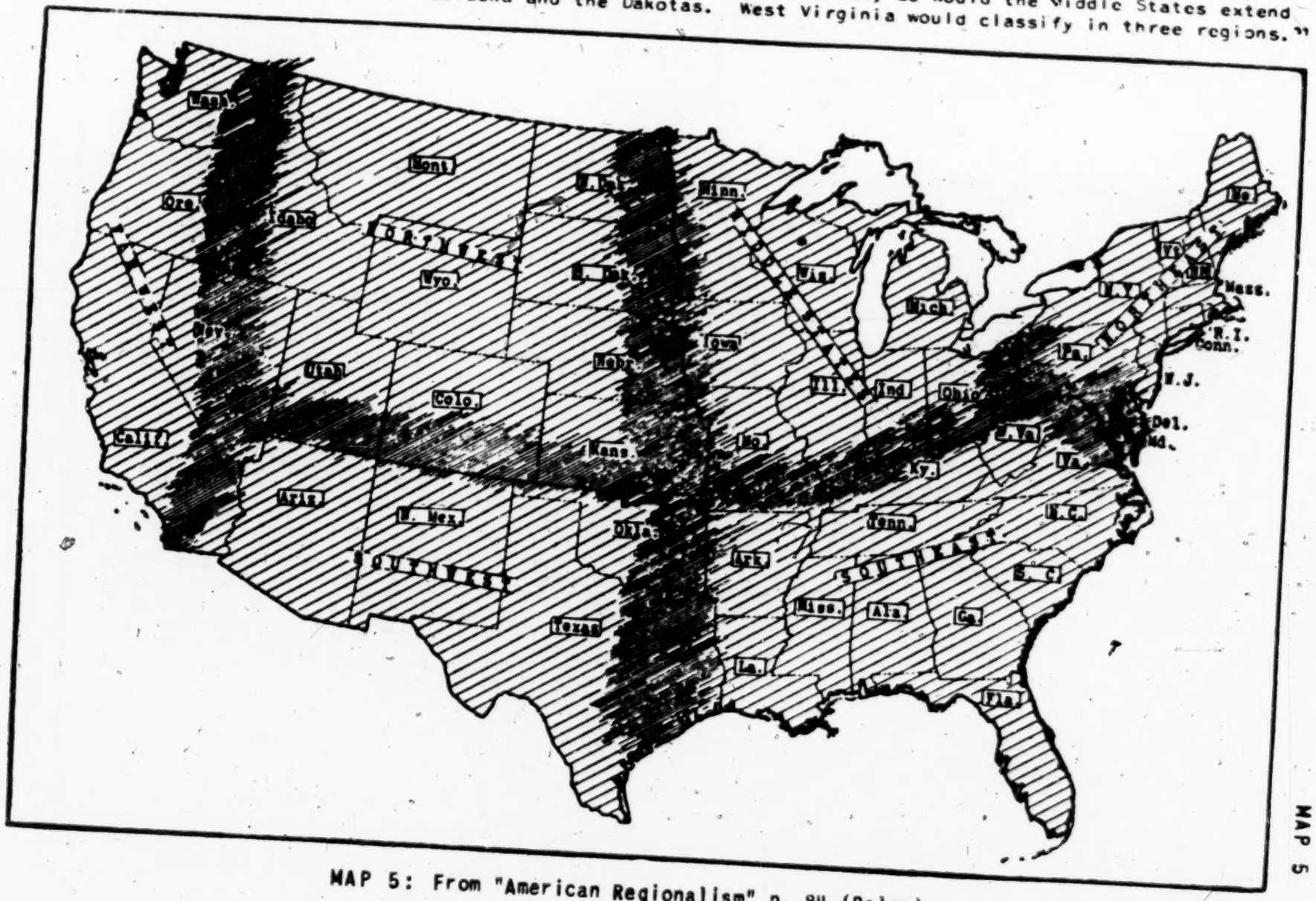
" The Six Major Societal Group-of-States Regions utilized in American Regionalism as approximating the largest available degree of homogeneity measured by the largest number of indices available for the largest possible number of purposes."



MAP 4

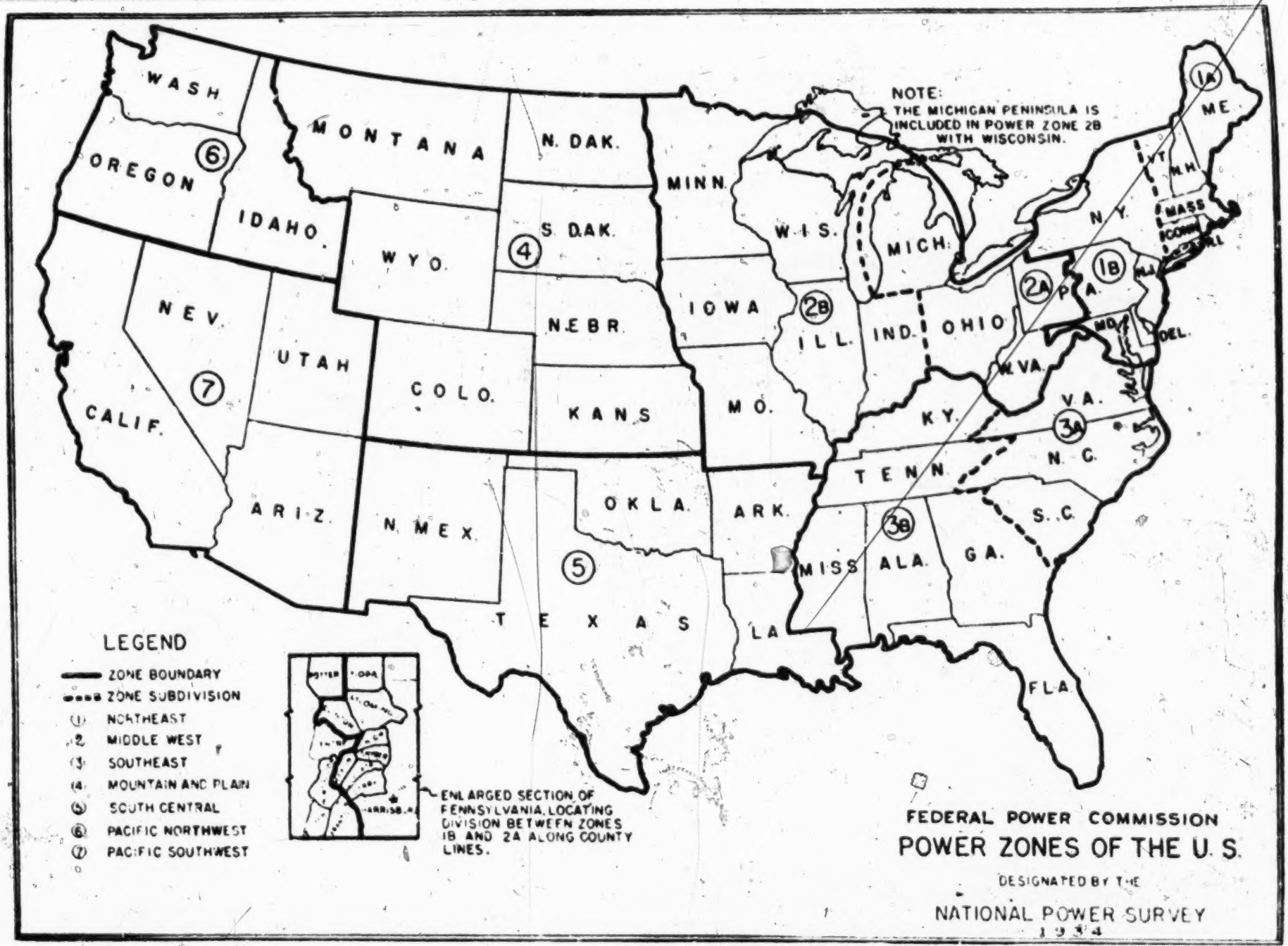
MAP 4: From "American Regionalism" p. 84 (Top).

" This map illustrates the no-man's land of border lines and states and indicates how the regions would be flexible and modified if it were not necessary to utilize state lines. The Southwest, for instance, would follow popular usage and include parts of Utah, Colorado, and Kansas, as would the Middle States extend over to the tree belt line of Nebraska and the Dakotas. West Virginia would classify in three regions. "



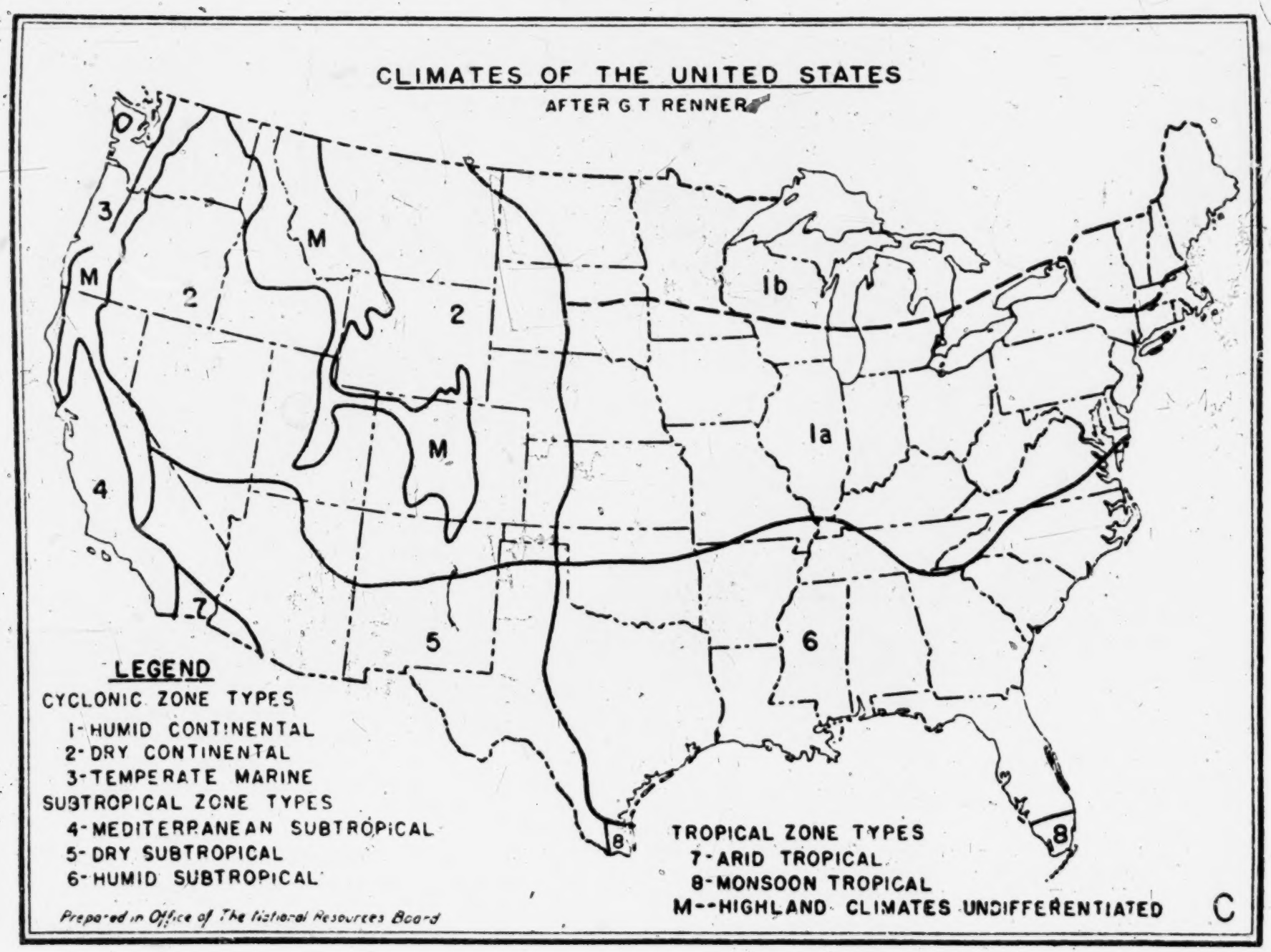
MAP 5: From "American Regionalism" p. 84 (Below).

MAP 5

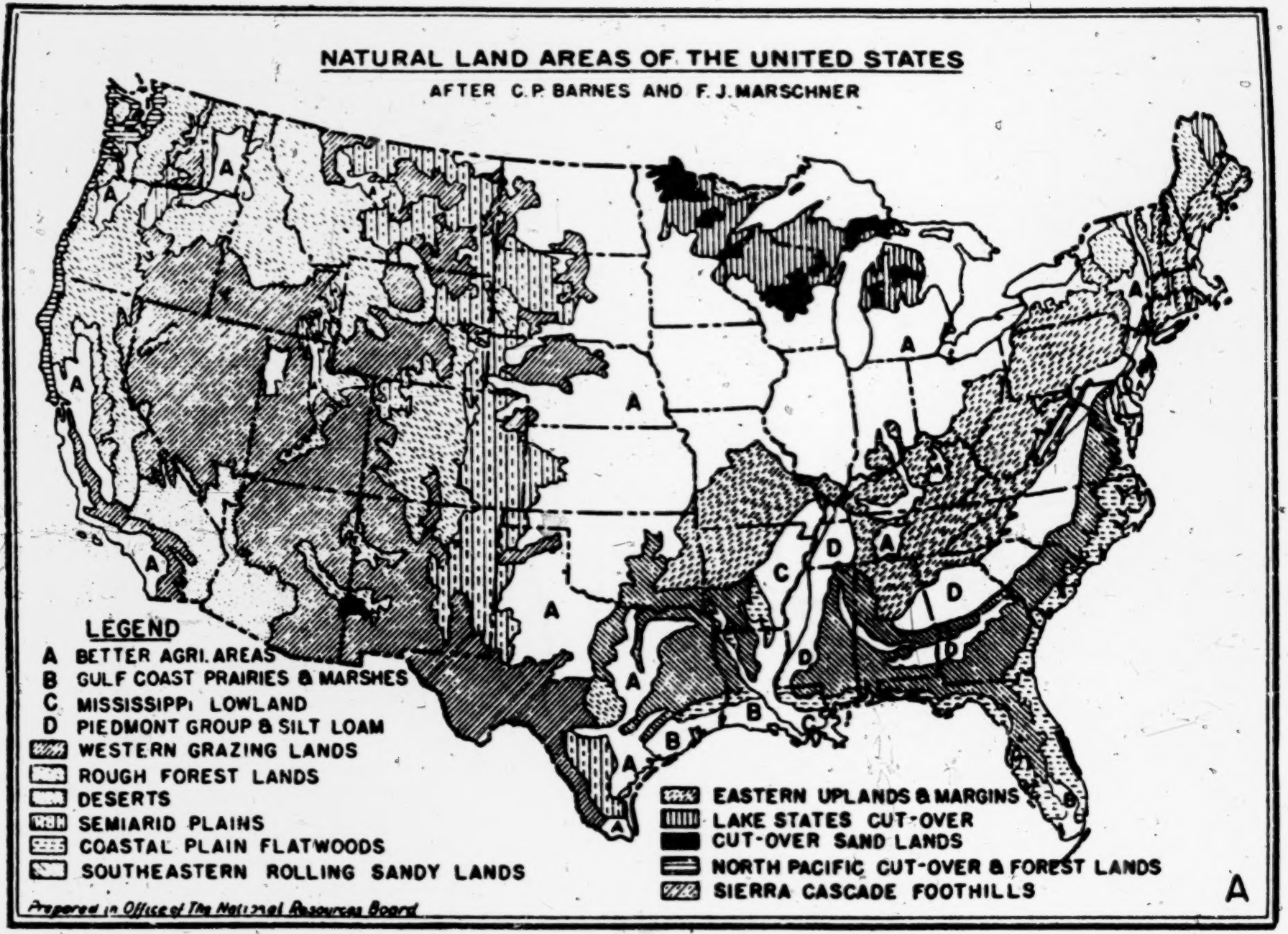


MAP 6

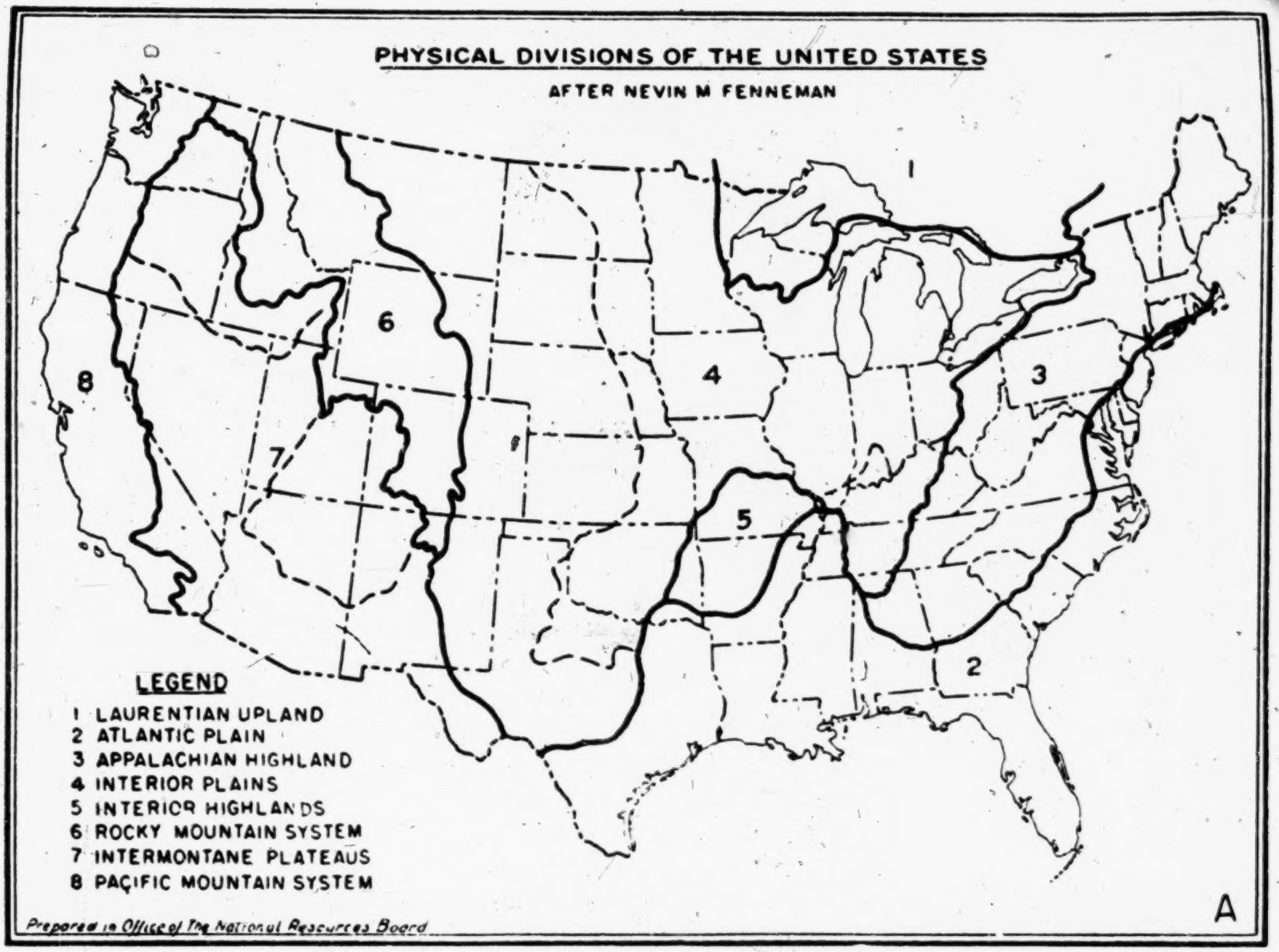
MAP 6: From "National Power Survey, Interim Report, Power Series No. 1, 1935" p. 3.



MAP 7: From "Regional Factors in National Planning and Development" p. 171 (C)



MAP 8: From "Regional Factors in National Planning and Development" p. 176 (A)



MAP 9

MAP 9: From "Regional Factors in National Planning and Development" p. 171 (A)

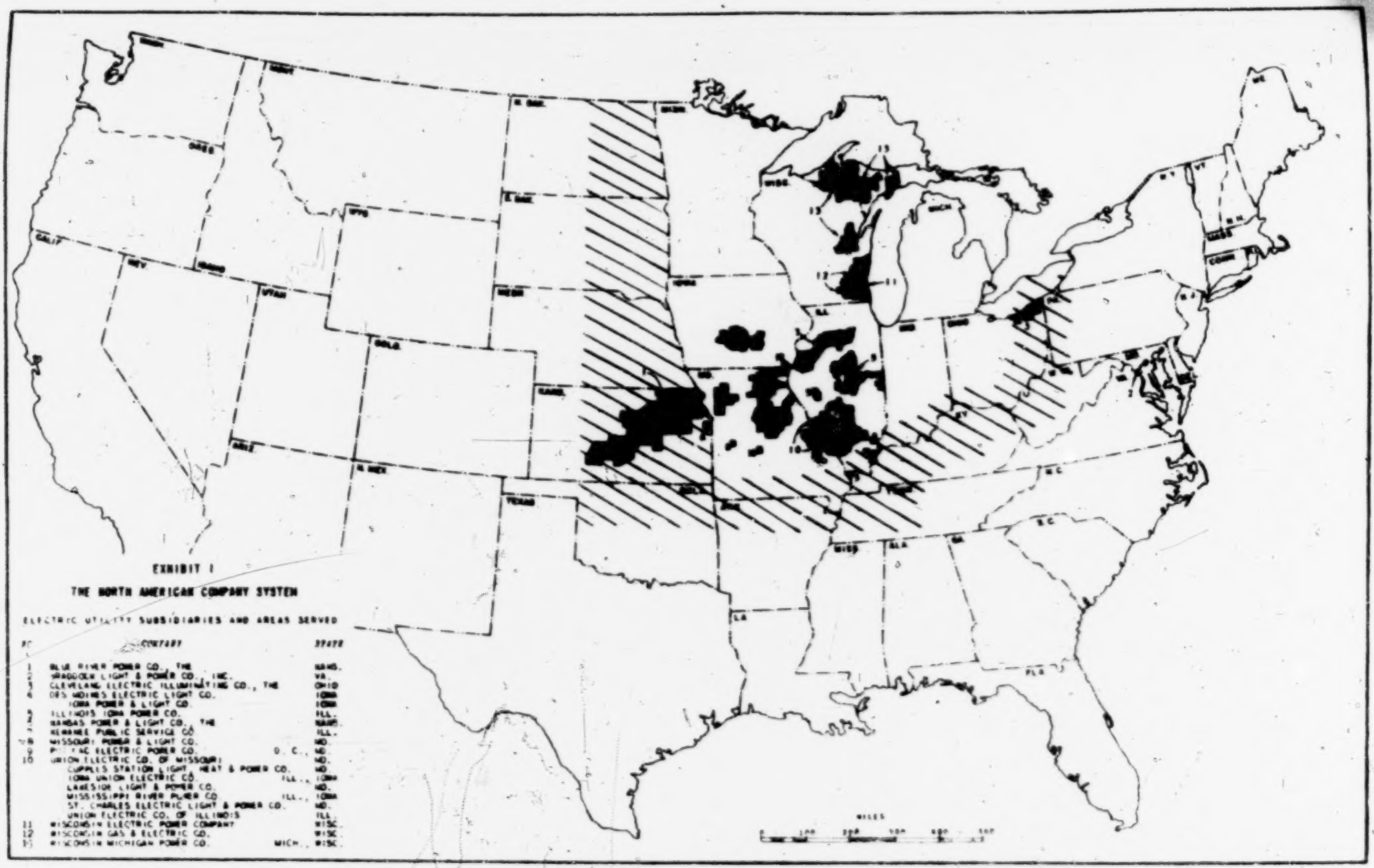


EXHIBIT I

THE NORTH AMERICAN COMPANY SYSTEM

ELECTRIC UTILITY SUBSIDIARIES AND AREAS SERVED

KC	COMPANY	STATE
1	BLUE RIVER POWER CO., THE	KANS.
2	VIRGINIA LIGHT & POWER CO., INC.	VA.
3	CLEVELAND ELECTRIC ILLUMINATING CO., THE	OHIO
4	DES MOINES ELECTRIC LIGHT CO.	IOWA
	IOWA POWER & LIGHT CO.	IOWA
5	ILLINOIS IOWA POWER CO.	ILL.
6	KANSAS POWER & LIGHT CO., THE	KANS.
7	KEOKUK PUBLIC SERVICE CO	ILL.
8	MISSOURI POWER & LIGHT CO.	MO.
9	POTOMAC ELECTRIC POWER CO. D. C.,	MD.
10	UNION ELECTRIC CO. OF MISSOURI	MO.
	CUPPLES STATION LIGHT, HEAT & POWER CO.	MO.
	IOWA UNION ELECTRIC CO. ILL.,	IOWA
	LAKESIDE LIGHT & POWER CO.	MO.
	MISSISSIPPI RIVER POWER CO ILL.,	IOWA
	ST. CHARLES ELECTRIC LIGHT & POWER CO.	MO.
	UNION ELECTRIC CO. OF ILLINOIS	ILL.
11	WISCONSIN ELECTRIC POWER COMPANY	WISC.
12	WISCONSIN GAS & ELECTRIC CO.	WISC.
13	WISCONSIN MICHIGAN POWER CO. MICH.,	WISC.

MILES

MAP 10

MAP 10: Map of North American Electric Utility Properties Accompanying SEC Order of March 8, 1940

Petitioners' Exhibit No. 144

(EXTRACT FROM RESPONDENTS' EXHIBIT No. 144)

As of December 31, 1940

(COMPENSATION IS SHOWN WHERE THE OFFICER OR EMPLOYEE RECEIVED MORE THAN $10,000 ANNUALLY, OR THE DIRECTOR MORE THAN $1,000 ANNUALLY)

Name of Officer, Director or Employee	Company	Positions Held	Compensation (Annual Rate)
F. W. Doolittle Garden City, N. Y.	The North American Company	Director	
J. F. Fogarty New York, N. Y.	The North American Company	Director Chairman of the Executive and Finance Committee	None $75,000
Herbert C. Freeman New York, N. Y.	The North American Company	Director Member Executive and Finance Committee Vice Presid	None None 50,000
Reed Hartel New York, N. Y.	The North American Company	Director and Secretary	
W. C. Heise New York, N. Y.	The North American Company	Director	
Elmer L. Lindseth New York, N. Y.	The North American Company	Engineer	12,000
Ralph E. Moody New York, N. Y.	The North American Company	Assistant to President	27,000
George Murnane New York, N. Y.	The North American Company	Director Member Executive and Finance Committee	6,000
Charles E. Neil New York, N. Y.	The North American Company	Rate Specialist	12,000
F. H. Piske New York, N. Y.	The North American Company	Director Vice President and Treasurer	None 25,000
P. D. Preger New York, N. Y.	The North American Company	Comptroller	15,000
Frank H. Schneider New York, N. Y.	The North American Company	Assistant to Comptroller	11,000
Edward L. Shea New York, N. Y.	The North American Company	Director Member Executive and Finance Committee President	None None 75,000

Petitioners' Exhibit No. 144

Name of Officer, Director or Employee	Company	Positions Held	Compensation (Annual Rate)
Edward M. Thierry New York, N. Y.	The North American Company	Assistant to President	12,000
S. B. Way Milwaukee, Wis.	The North American Company	Director	350
Harrison Williams New York, N. Y.	The North American Company	Director	None
		Member Executive and Finance Committee	None
		Chairman of the Board	75,000
D. E. Ackets Topeka, Kan.	The Kansas Power and Light Company	Director	None
		President	24,100
	The Blue River Power Company	Director and President	None
	Nebraska Natural Gas Company	Director	None
		President	900
	The McPherson Oil & Gas Development Company	Director and President	None
	North American Oil and Gas Company	Director	None
Eben G. Crawford Cleveland, Ohio	The Cleveland Electric Illuminating Company	Director and Member Executive Committee	None
		President	50,000
J. F. Fogarty New York, N. Y.	Wisconsin Electric Power Company	Director	40
	The Cleveland Electric Illuminating Company	Director	1,008
		Member Executive Committee	None
	North American Light & Power Company	Director	None
	West Kentucky Coal Company (New Jersey)	Director	None
	60 Broadway Building Corporation	Director and President	None
	North American Utility Securities Corporation	Director and President	None

Petitioners' Exhibit No. 144

Name of Officer, Director or Employee	Company	Positions Held	Compensation (Annual Rate)
Herbert C. Freeman New York, N. Y.	Wisconsin Electric Power Company	Director	40
	The Cleveland Electric Illuminating Company	Director	1,008
		Member Executive Committee	None
	North American Light & Power Company	Director	None
	West Kentucky Coal Company (New Jersey)	Director	None
	West Kentucky Coal Company (Delaware)	Director	None
	Peoples Coal Company	Director	None
	St. Bernard Coal Company	Director	None
	60 Broadway Building Corporation	Director and Vice President	None
	North American Utility Securities Corporation	Director and Vice President	None
Edward T. Gushee St. Louis, Mo.	Union Electric Company of Missouri	Director	20
		Executive Vice President	19,500
	Union Electric Company of Illinois	Director	20
		Executive Vice President	8,480
	Union Colliery Company	Director	20
		Executive Vice President	150
	Mississippi River Power Company	Director	20
		Executive Vice President	1,800
	Iowa Union Electric Company	Director	20
		Executive Vice President	720
	Cupples Station Light, Heat and Power Company	Director	20
		Executive Vice President	None

Petitioners' Exhibit No. 144

Name of Officer, Director or Employee	Company	Positions Held	Compensation (Annual Rate)
Edward T. Gushee St. Louis, Mo.	Union Electric Land and Development Company	Director and Executive Vice President	None
	St. Louis & Belleville Electric Railway Company	Director	10
		Executive Vice President	150
	St. Louis & Alton Railway Company	Director	10
		Executive Vice President	None
	East St. Louis & Suburban Railway Company	Director	20
		Executive Vice President	None
	East St. Louis Railway Company	Director	20
		Executive Vice President	None
	The St. Louis County Gas Company	Director	20
		Executive Vice President	4,200
Reed Hartel New York, N. Y.	West Kentucky Coal Company (Delaware)	Director and Vice President	
	Peoples Coal Company	Director and Vice President	
	St. Bernard Coal Company	Director and Vice President	
	60 Broadway Building Corporation	Director and Secretary	
	North American Utility Securities Corporation	Director	
Harry W. Hough Cleveland, Ohio	The Cleveland Electric Illuminating Company	Vice President and General Manager	20,000
	The Ceico Company	Director and President	None
B. E. Ling Cleveland, Ohio	The Cleveland Electric Illuminating Company	Assistant to the President	15,000
William McClellan St. Louis, Mo.	Union Electric Company of Missouri	Director	20
		President	33,000
	Union Electric Company of Illinois	Director	20
		President	14,400

Petitioners' Exhibit No. 144

Name of Officer, Director or Employee	Company	Positions Held	Compensation (Annual Rate)
William McClellan St. Louis, Mo.	Union Colliery Company	Director	20
		President	300
	Mississippi River Power Company	Director	20
		President	3,600
	Iowa Union Electric Company	Director	20
		President	1,200
	Cupples Station Light, Heat and Power Company	Director	20
		President	None
	Union Electric Land and Development Company	Director and President	None
	St. Louis & Belleville Electric Railway Company	Director	10
		President	300
	St. Louis & Alton Railway Company	Director	10
		President	None
	East St. Louis & Suburban Railway Company	Director	20
		President	None
	East St. Louis Railway Company	Director	20
		President	None
	The St. Louis County Gas Company	Director	20
		President	7,200
R. E. Moody New York, N. Y.	Union Electric Company of Missouri	Director	None
	St. Louis County Gas Company	Director	None
	North American Utility Securities Corporation	Director	None
F. H. Piske New York, N. Y.	Wisconsin Electric Power Company	Director	None
	The Cleveland Electric Illuminating Company	Director	1,008
	North American Light & Power Company	Director	$10
	West Kentucky Coal Company (New Jersey)	Director	None

Petitioners' Exhibit No. 144

Name of Officer, Director or Employee	Company	Positions Held	Compensation (Annual Rate)
F. H. Piske New York, N. Y.	West Kentucky Coal Company (Delaware)	Director	None
	Peoples Coal Company	Director	None
	St. Bernard Coal Company	Director	None
	60 Broadway Building Corporation	Director, Vice President and Treasurer	None
	North American Utility Securities Corporation	Director, Vice President and Treasurer	None
Frank J. Ryan Cleveland, Ohio	The Cleveland Electric Illuminating Company	Assistant to the President	15,000
Robert Sealy Miami Beach, Florida	West Kentucky Coal Company (New Jersey)	Director and Vice President	
G. W. Van Derzee Milwaukee, Wis.	Wisconsin Electric Power Company	Director	120
		Member Executive Committee	760
		Vice President and General Manager	32,500
	The Milwaukee Electric Railway & Transport Company	Director	110
		Vice President	None
	Wisconsin Gas & Electric Company	Director	220
		Vice President	None
	Wisconsin Michigan Power Company	Director	220
		Vice President	None
	Milwaukee Light, Heat & Traction Company	Director	20
		Vice President	None
	Hevi-Duty Electric Company	Director and Vice President	None
Allen Van Wyck New York, N. Y.	North American Light & Power Company	Director	None
		President	$10,000
	The Kansas Power and Light Company	Director	None
		Vice President	5,000
	Nebraska Natural Gas Company	Director and Vice President	None

Petitioners' Exhibit No. 144

Name of Officer, Director or Employee	Company	Positions Held	Compensation (Annual Rate)
Allen Van Wyck New York, N. Y.	The McPherson Oil & Gas Development Company	Director and Vice President	None
	Power & Light Securities Company	Director and Vice President	None
	Illinois Traction Company	Director and Vice President	None
	Kewanee Public Service Company	Director and President	None
S. B. Way Milwaukee, Wis.	Wisconsin Electric Power Company	Director	160
		Member Executive Committee	620
		President	45,000
	The Milwaukee Electric Railway & Transport Company	Director	110
		Chairman of Board	None
	Badger Auto Service Company	Director	110
		President	None
	Wisconsin Gas & Electric Company	Director	220
		President	9,000
	Wisconsin Michigan Power Company	Director	220
		President	6,000
	Milwaukee Light, Heat & Traction Company	Director	None
		President	None
	Hevi-Duty Electric Company	Director	None
John A. Woodbridge St. Louis, Mo.	Union Electric Company of Missouri	Director	20
		Vice President	10,920
	Union Electric Company of Illinois	Director	None
		Vice President	4,800
	Union Colliery Company	Director	20
		Vice President	140
	Mississippi River Power Company	Director	20
		Vice President	1,200
	Iowa Union Electric Company	Director	None
		Vice President	420
	Cupples Station Light, Heat and Power Company	Director	20
		Vice President	None
	Union Electric Land and Development Company	Director and Vice President	None

Petitioners' Exhibit No. 144

Name of Officer, Director or Employee	Company	Positions Held	Compensation (Annual Rate)
John A. Woodbridge	St. Louis & Belleville Electric Railway Company	Vice President	120
	St. Louis & Alton Railway Company	Vice President	None
	East St. Louis Railway Company	Director	20
		Vice President	None
	East St. Louis & Suburban Railway Company	Vice President	None
	The St. Louis County Gas Company	Vice President	2,400
F. W. Doolittle Garden City, N. Y.	Illinois Terminal Railroad Company	Director	None
C. A. Leland Des Moines, Iowa	Illinois Iowa Power Company	Director	None
	Des Moines Electric Light Company	Director and President	16,800
	Iowa Power and Light Company	Director and President	8,200
A. P. Titus Clayton, Missouri	Illinois Iowa Power Company	Director	None
	Illinois Terminal Railroad Company	Director	None
		President and General Manager	21,000
	St. Louis Electric Terminal Railway Company	Director and President	None
	Chicago and Illinois Valley Railroad Company	Director and Vice President	None
Allen Van Wyck Chicago, Illinois	Illinois Iowa Power Company	Director and President	9,600
	Central Terminal Company	Director	None
	Des Moines Electric Light Company	Director and Vice President	1,800
	Iowa Power and Light Company	Director and Vice President	1,200
	Illinois Terminal Railroad Company	Chairman of the Board	2,400

Petitioners' Exhibit No. 144

Name of Officer, Director or Employee	Company	Positions Held	Compensation (Annual Rate)
Allen Van Wyck Chicago, Illinois	St. Louis Electric Terminal Railway Company	Director and Vice President	None
	Chicago and Illinois Valley Railroad Company	Director and Vice President	None
F. W. Doolittle Garden City, N. Y.	Washington Railway and Electric Company	Director	
	Potomac Electric Power Company	Director	
	Capital Transit Company	Director	
W. F. Ham Washington, D. C.	Potomac Electric Power Company	Director	20
		Chairman of the Board	15,000
	Braddock Light & Power Company, Incorporated	Director	None
	Capital Transit Company	Director	280
		Member of the Finance Committee	200
		Member of the Budget Committee	40
Wm. McClellan St. Louis, Mo.	Washington Railway and Electric Company	Director and Chairman of the Board	
	Potomac Electric Power Company	Director	
	The Washington and Rockville Railway Company of Montgomery County	Director	
	Capital Transit Company	Director	
R. E. Moody New York, N. Y.	Washington Railway and Electric Company	Director	
	Potomac Electric Power Company	Director	
A. G. Neal Washington, D. C.	Washington Railway and Electric Company	Director	10
		President	None
	Potomac Electric Power Company	Director	20
		President	30,000
		Chairman of Executive Committee	None

Petitioners' Exhibit No. 144

Name of Officer, Director or Employee	Company	Positions Held	Compensation (Annual Rate)
A. G. Neal Washington, D. C.	The Washington and Rockville Railway Company of Montgomery County	Director	None
		President	None
	Braddock Light & Power Company, Incorporated	Director and President	None
	Great Falls Power Company	Director	None
		President	None
	Capital Transit Company	Director	260
		Member of the Finance Committee	240
		Member of the Budget Committee	40
B. R. Bay Omaha, Nebraska	Northern Natural Gas Company	President	24,000
		Member of Executive Committee	None
		Director	None
	Peoples Natural Gas Company	President	4,500
		Director	None
	Argus Natural Gas Company, Inc.	President	1,500
		Director	None

Petitioners' Exhibit No. 145

Extract from Certificate of Organization of North American, Part of Respondents' Exhibit No. 145

SERIAL PREFERRED STOCK

"(a) The Board of Directors is hereby empowered to cause the Serial Preferred Stock to be issued from time to time in one or more series as follows:

(1) As shares of Preferred Stock, 6% Series, which shall include the 606,678 shares of previously authorized and issued Six Per Cent. Cumulative Preferred Stock which have been changed into, and shall hereafter be designated as, Preferred Stock, 6% Series. The annual dividend rate for such series shall be 6% per annum; the date from which dividends on all shares of such series issued prior to the record date for the dividend payable on April 1, 1939, shall be cumulative shall be January 1, 1939; the redemption price for such series shall be $55 per share; and the amount per share payable to the holders thereof upon any liquidation, dissolution or winding up of the Company or upon any distribution of its capital shall be the par value thereof.

* * * * *

(d) Before any amount shall be paid to, or any assets distributed among, the holders of the Common Stock upon any liquidation, dissolution or winding up of the Company or upon any distribution of its capital, and after paying or providing for the payment of all creditors of the Company, the holders of the Serial Preferred Stock at the time outstanding shall be entitled to be paid in cash, in the case of Preferred Stock, 6% Series, the amount hereinbefore specified with respect thereto, and, in the case of Serial Preferred Stock of any other series, the amount for the particular series fixed therefor by the Board of Directors as hereinbefore provided, together with a sum in the case of each

such share of each series, computed at the annual dividend rate for the series of which the particular share is a part, from the date from which dividends on such share became cumulative to the date fixed for the payment of such distributive amount, less the aggregate of the dividends theretofore or on such date paid thereon; but no payments on account of such distributive amounts shall be made to the holders of the Serial Preferred Stock of any series unless there shall likewise be paid at the same time to the holders of the Serial Preferred Stock of each other series at the time outstanding like proportionate distributive amounts, ratably, in proportion to the full distributive amounts to which they are respectively entitled as herein provided.

COMMON STOCK

(e) Whenever the full dividends on the Serial Preferred Stock at the time outstanding for all past quarter-yearly dividend periods shall have been paid, and the full dividend thereon for the quarter-yearly dividend period then current shall have been paid or declared and a sum sufficient for the payment thereof set apart, then such dividends (payable in cash, stock or otherwise) as may be determined by the Board of Directors may be declared and paid on the Common Stock, but only out of surplus or net profits legally available for the payment of dividends, and the Serial Preferred Stock shall not be entitled to participate in any such dividends, whether payable in cash, stock or otherwise; provided, however, that so long as any of the Serial Preferred Stock shall remain outstanding, no dividend whatsoever, whether in cash, stock or otherwise, shall be paid or declared, nor shall any distribution be made on the Common Stock, nor shall any shares of the Common Stock be purchased, retired or other-

wise acquired by the Company, unless, after giving effect thereto, there shall remain a balance of earned surplus, net profits, and reserves created for losses resulting from the revaluation, sale or other disposition of any of the assets of the Company, which in the aggregate shall be at least equal to fifteen per cent. of the aggregate par value of all Serial Preferred Stock then outstanding."

* * * * *

Extract from Certificate of Designation of Preferred Stock, 5¾% Series, Part of Respondents' Exhibit No. 145

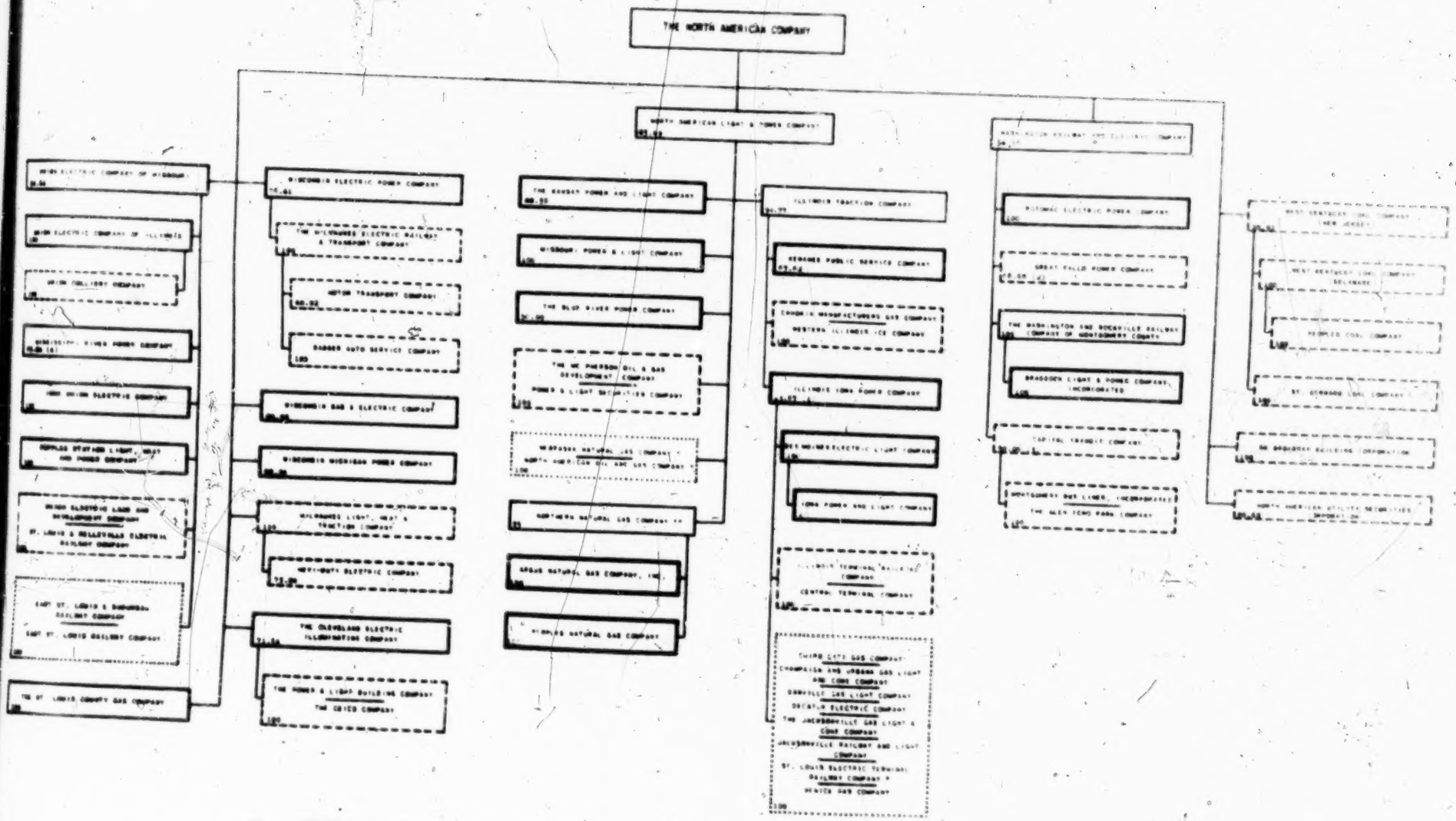
"RESOLVED, that Six hundred ninety-six thousand five hundred eighty (696,580) shares of the authorized but unissued shares of Serial Preferred Stock, of the par value of $50 per share, of the Company, be issued as shares of a series to be designated 'Preferred Stock, 5¾% Series', and that, pursuant to Article Fourth of the Certificate of Organization of the Company, as amended, the Board of Directors hereby fixes for such series:

(1) 5¾% of the par value of each share as the annual dividend rate, and February 1, 1939 as the date from which dividends on all shares of such series issued prior to the first dividend payment date therefor shall be cumulative;

(2) $55 per share as the redemption price;

(3) $52.50 per share as the amount payable to the holders thereof in case of voluntary dissolution or any voluntary distribution of assets, and $50 per share as the amount payable to the holders thereof in case of involuntary dissolution or any involuntary distribution of assets;"

Corporate Chart-May 1, 1941



Explanatory Notes

A light solid line connecting a company name indicates that the company is a holding company. A heavy solid line indicates a utility company. A broken line indicates a non-utility company, and a dotted line indicates an inactive company or a company in process of organization.

The figures shown above represent the percentage of total voting securities held by the immediate parent (excluding securities having voting rights because of default or arrears).

NOTES (1) to (9):

(1) In addition Power & Light Securities Company holds 1.91% of the voting stock. North American Light & Power Company holds 0.1% of the voting stock and the North American Company holds 0.74% of the voting stock.
(2) In addition The Appalachian and Nashville Railway Company of Montgomery County holds 33.33% of the common stock.
(3) In addition The North American Company holds 1.0% of the common stock.
(4) In addition The North American Company holds 0.05% of the voting stock.
* In process of dissolution.
** Sale pending.

Note: In addition to the foregoing, The North American Company owns directly 10.01% of the voting stock of The Detroit Edison Company and 17.10% of the voting stock of Pacific Gas and Electric Company. North American Utility Securities Corporation owns directly 0.01% and 0.10% of the voting stock of The Detroit Edison Company and Pacific Gas and Electric Company, respectively.

UNITED STATES OF AMERICA

BEFORE THE

SECURITIES AND EXCHANGE COMMISSION

IN THE MATTER

of

THE NORTH AMERICAN COMPANY

and its

SUBSIDIARY COMPANIES,

Respondents.

File No. 59-10

Public Utility Holding Company Act of 1935,
Section 11(b)(1)

FINDINGS OF FACT REQUESTED BY THE NORTH AMERICAN COMPANY AND OTHER WITHIN NAMED RESPONDENTS

The North American Company and all of its subsidiaries which are Respondents in this proceeding (other than North American Light & Power Company and its subsidiaries)*

*Such subsidiary Respondents on behalf of which these findings are requested are Washington Railway and Electric Company and its subsidiaries, Union Electric Company of Missouri and its subsidiaries, The St. Louis County Gas Company, Wisconsin Electric Power Company and its subsidiaries, Wisconsin Gas & Electric Company, Wisconsin Michigan Power Company, Milwaukee Light, Heat & Traction Company and its subsidiary, The Cleveland Electric Illuminating Company and its subsidiaries, West Kentucky Coal Company and its subsidiaries, 60 Broadway Building Corporation and North American Utility Securities Corporation.

hereby request the Securities and Exchange Commission to make the findings of fact hereinafter set forth. For the sake of convenience, such requested findings are grouped by the subject matter or groups of companies to which they relate. The North American Company is hereinafter called "North American".

1. North American And Its Holdings

1.1. North American is a registered public utility holding company which was incorporated under the laws of the State of New Jersey in 1890 and has since had continuous existence. (Tr. 6886)

1.2. North American's principal public utility holdings now consist of controlling interests in companies operating in and about Washington, D. C., Cleveland, Milwaukee and St. Louis. It also has substantial minority investments in The Detroit Edison Company and Pacific Gas & Electric Company. North American also controls three non-utility companies and North American Light & Power Company, an intermediate public utility holding company. (Resp. Exs. 125 and 147)

2. The Washington Group

2.1. Washington Railway and Electric Company (hereinafter called "Washington") is a registered holding company and has the subsidiaries hereinafter mentioned (all hereinafter collectively called the Washington Group"). Washington was incorporated under an Act of Congress in 1892. (Tr. 519)

Findings of Fact Requested by the North American Company and Other Within Named Respondents

2.2. North American holds 34.55% of the voting stock of Washington. (Resp. Ex. 147) Its holdings at December 31, 1940 represented a cost to North American of $12,835,341 and 44..39% of Washington's consolidated capital. (Resp. Exs. 125, 127 and 147)

2.3. The only public utility companies in the Washington Group are Potomac Electric Power Company (hereinafter called "Potomac"), incorporated under the District of Columbia Code in April, 1896, and Braddock Light & Power Company (hereinafter called "Braddock"), a Virginia corporation. (Tr. 118) Braddock owns only the small part of the distribution system located in Virginia, being a separate corporation to comply with Virginia law, and its property is in all respects an integral part of Potomac's system. (Tr. 132)

2.4. Potomac and Braddock furnish all electric utility service in a single compact and continuous service area, consisting of the District of Columbia and adjacent portions of Maryland and Virginia, a total of 630 square miles, with a population of 826,000. The operations of Potomac and Braddock are confined to a single area or region. (Resp. Ex. 3; Tr. 132, 137)

2.5. The electric utility system of Potomac and Braddock consists of two generating stations (additional power supply being obtained through an interconnection with Baltimore), together with transmission lines and distributing facilities. The utility assets of Potomac and Braddock are physically interconnected and are economically operated as a single in-

terconnected and coordinated system. (Resp. Ex. 3, 5; Tr. 179, 244, 246, 304)

2.6. The electric utility system of Potomac and Braddock is not so large as to impair the advantages of localized management.

2.7. The electric utility system of Potomac and Braddock is not so large as to impair its efficient operation.

2.8. The electric utility system of Potomac and Braddock is not so large as to impair the effectiveness of regulation.

2.9. The electric utility system of Potomac and Braddock constitutes a single integrated public utility system within the meaning of the Act.*

2.10. The Washington and Rockville Railway Company of Montgomery County is a non-operating company and its only activity is ownership of all of the stock of Braddock and part of the stock of Great Falls Power Company. (Tr. 129) The latter company's only activity is ownership of 1,050 acres of land on the Potomac River sixteen miles from Washington, originally acquired for hydroelectric development and now held for liquidation. (Tr. 517) The retention by Washington of its interest in the Washington and Rockville and Great Falls Companies was expressly authorized by Congress (47 Stat. 760; Tr. 519)

2.11. The Washington and Rockville and Great Falls companies do not conduct a business, and in any case reten-

*The Public Utility Holding Company Act of 1935 is herein referred to as the "Act".

tion of Washington's interest therein is necessary or appropriate in the public interest or for the protection of investors or consumers, and not detrimental to the proper functioning of the integrated public utility system of Potomac and Braddock, and the activities of such companies are reasonably incidental or economically necessary or appropriate to the operations of such integrated public utility system.

2.12. The only other business in the Washington Group is the transportation system of Capital Transit Company (hereinafter called "Capital Transit") and its two subsidiaries. Capital Transit and its subsidiary, Montgomery Bus Lines, Incorporated, do substantially all the transportation business in the District of Columbia and in two adjacent Maryland Counties. Glen Echo Park Company, the other subsidiary, operates an amusement park in connection with such transportation system and to increase traffic thereon. (Tr. 450, 476)

2.13. Capital Transit was incorporated in 1933, when it acquired all of the transportation property formerly owned by Washington and by the former Capital Traction Company pursuant to a transit unification plan approved by Congress. Such unification resulted in economies and better service and was highly beneficial to the public. (Tr. 455, 469-75). The retention by Washington of its interest in Capital Transit was expressly authorized by Congress. (Tr. 519; 47 Stat. 760)

2.14. The properties of Potomac and Capital Transit are interconnected at many points, with joint use of many

facilities, and Potomac operates various electrical equipment of Capital Transit. (Tr. 470-475) All electric energy used by Capital Transit is purchased by it from Potomac. (Tr. 475) The electric system of Potomac had its origin in transportation properties now owned by Capital Transit, and the two have been under common control for more than forty-eight years. (Tr. 457-9, 463-4)

2.15. The investment in Capital Transit represents less than 15½% of Washington's consolidated assets and 2.06% of its consolidated gross income. (Resp. Ex. 143d)

2.16. Capital Transit and its subsidiaries are fully regulated by the Public Utilities Commission of the District of Columbia and the Public Service Commission of Maryland. (Tr. 479)

2.17. Retention of Washington's interest in Capital Transit is necessary or appropriate in the public interest or for the protection of investors or consumers, and not detrimental to the proper functioning of the integrated public utility system of Potomac and Braddock; and the transportation business and related operations of Capital Transit and its subsidiaries are reasonably incidental or economically necessary or appropriate to the operations of such integrated public utility system.

2.18. The operations of the holding company system of Washington are limited to a single integrated public utility system and to such other businesses as are reasonably incidental or economically necessary or appropriate to the operations of such integrated public utility system.

Findings of Fact Requested by the North American Company and Other Within Named Respondents

3. The Cleveland Group

3.1. The Cleveland Electric Illuminating Company (hereinafter called "Cleveland") is an electric utility company and has the two subsidiaries hereinafter mentioned. Cleveland was incorporated under the laws of Ohio in 1892. (Tr. 1068)

3.2. North American holds 79.4% of the common stock of Cleveland, representing a cost to North American of $38,417,339, and 33.58% of Cleveland's capital. (Resp. Exs. 125 and 127)

3.3. Cleveland furnishes electric utility service in a single compact and continuous service area centering about the City of Cleveland, a total of 1,700 square miles, with a population of 1,400,600. The operations of Cleveland are confined to a single area or region and within the State of Ohio. (Tr. 596, 598, Resp. Ex. 21)

3.4. The electric utility system of Cleveland consists of three generating stations, together with transmission lines and distributing facilities. The utility assets of Cleveland are physically interconnected and are economically operated as a single interconnected and coordinated system. (Resp. Ex. 21; Tr. 647-649, 696-699, 823)

3.5. Cleveland has two subsidiaries, The Power & Light Building Company, which owns the system office building, and The Ceico Company, which holds a small amount of miscellaneous system real estate and renders meter service to certain system customers. The activities of such sub-

sidiaries constitute an integral part of Cleveland's electric utility system. (Tr. 939-945)

3.6. The electric utility system of Cleveland is not so large as to impair the advantages of localized management.

3.7. The electric utility system of Cleveland is not so large as to impair its efficient operation.

3.8. The electric utility system of Cleveland is not so large as to impair the effectiveness of regulation.

3.9. The electric utility system of Cleveland constitutes a single integrated public utility system within the meaning of the Act.

3.10. The only business of Cleveland other than electric service consists of furnishing steam to 600 customers in the City of Cleveland. Such steam business, which was commenced by Cleveland in 1906, benefits the electric system by rendering unnecessary independent steam plants which could also generate customers' electric requirements. The steam business represents about 5% of Cleveland's total operating revenues. (Tr. 951) The electric and steam services are conducted by the same organization and use much joint equipment, with resultant substantial economies. Conduct of the steam business by Cleveland benefits consumers and the community. Such steam business could not be sold without a substantial loss to Cleveland. (Tr. 951-967)

3.11. Retention by Cleveland of its steam business is necessary or appropriate in the public interest or for the

protection of investors or consumers, and not detrimental to the proper functioning of the integrated public utility system of Cleveland; and the steam business is reasonably incidental or economically necessary or appropriate to the operations of such integrated public utility system.

4. The Wisconsin Group

4.1. The Wisconsin Group consists of three public utility companies, Wisconsin Electric Power Company (hereinafter called "Wisconsin Electric"), Wisconsin Gas & Electric Company (hereinafter called "Wisconsin Gas") and Wisconsin Michigan Power Company (hereinafter called "Wisconsin Michigan"), and the five non-utility companies hereinafter mentioned. (Resp. Ex. 117) The three utility companies were all incorporated under the laws of Wisconsin, in 1896, 1866 and 1911, respectively. (Tr. 2131, 2171, 2191)

4.2. North American holds 76.41%, 89.98% and 88.24%, respectively, of the voting stock of Wisconsin Electric, Wisconsin Gas and Wisconsin Michigan. Its holdings at December 31, 1940 represented a cost to North American of $25,313,824, $6,000,000 and $6,774,615.46, respectively, and 25.06%, 32.45% and 29.04%, respectively, of the capital of such companies. (Resp. Exs. 125, 127)

4.3. The Wisconsin Group furnishes electric utility service in a territory of 12,318 square miles in Wisconsin, including Milwaukee and its suburbs, and in a portion of the northern peninsula of Michigan, with an aggregate population of 1,275,000. The electric operations of the Wisconsin

Group are confined to a single area or region. (Resp. Exs. 32, 142; Tr. 1219)

4.4. The electric utility system of the Wisconsin Group consists of 21 generating stations, together with transmission lines and distributing facilities. The utility assets of the Wisconsin Group are physically interconnected (except for a very minor area in Northern Michigan which is capable of physical interconnection) and under normal conditions may be economically operated as a single interconnected and coordinated system. (Resp. Ex. 32; Tr. 1469, 1509, 1528, 2226-8)

4.5. In addition to electric service, Wisconsin Gas furnishes gas service in a territory of 1,300 square miles adjacent to Milwaukee, of which all but 84 square miles lie within the electric service territory above referred to, with a population of 274,500. (Tr. 1311, 1313) Wisconsin Michigan furnishes gas service in a territory of 61 square miles in Wisconsin, wholly within its electric service territory, with a population of 53,200. (Tr. 1316) Such gas services are operated as a single coordinated system. Gas operations account for 5.2% of the total operating revenues and approximately 8.4% of property and plant of the three utility companies in the Wisconsin Group. (Resp. Ex. 143b; Tr. 1498, 1506)

4.6. The electric and gas operations of the Wisconsin Group are conducted jointly as a single coordinated system, utilizing joint management and personnel, and many joint facilities. Such joint operation results in substantial economies to the respective services and also in benefits and

convenience to consumers, all of which would cease if the electric and gas businesses were divorced. (Tr. 2101-2120, 2261-2)

4.7. Neither the electric nor the gas system of the Wisconsin Group could be operated independently of the other without the loss of substantial economies which can be secured by their retention under common control.

4.8. The electric and gas utility systems of the Wisconsin Group, singly and in combination, are not so large as to impair the advantages of localized management.

4.9. The electric and gas utility systems of the Wisconsin Group, singly and in combination, are not so large as to impair their efficient operation.

4.10. The electric and gas utility systems of the Wisconsin Group, singly and in combination, are not so large as to impair the effectiveness of regulation.

4.11. The electric utility properties of the Wisconsin Group constitute a single integrated public utility system within the meaning of the Act, the gas utility properties of such Group constitute a single integrated public utility system within the meaning of the Act, and in combination such systems constitute a single integrated public utility system within the meaning of the Act.

4.12. The only businesses conducted by the three utility companies in the Wisconsin Group, other than electric and gas service, are the heating businesses in Milwaukee and Waukesha, and the transportation operations in Kenosha and Appleton, which, individually and in the aggregate, ac-

count for a minor part of the Wisconsin Group's total assets and gross revenues. (Tr. 1320, 1321, 1509; Resp. Ex. 143b)

4.13. The heating businesses of the Wisconsin Group benefit the electric system by rendering unnecessary independent steam plants which could also generate customers' electric requirements. (Tr. 1979) The electric and heating businesses are conducted by the same organization and use many joint facilities, resulting in substantial economies. (Tr. 1980) The conduct of the heating businesses benefits consumers and the respective communities. (Tr. 1980) Such heating businesses could not be sold or be conducted by anyone other than the Wisconsin Group, and any forced divorcement thereof would result in the abandonment of such heating services, to the public detriment. (Tr. 1998).

4.14. The transportation businesses in Kenosha and Appleton had a common origin with the electric service and are conducted by the same organization and use many joint facilities, resulting in substantial economies. (Tr. 1994, 2001-2, 2102, 2105, 2109, 2113) Such transportation businesses could not be sold without loss. (Tr. 2001)

4.15. Retention by the Wisconsin Group of such heating and transportation businesses is necessary or appropriate in the public interest or for the protection of investors or consumers, and not detrimental to the proper functioning of the integrated public utility system of the Wisconsin Group; and each such business is reasonably incidental or economically necessary or appropriate to the operations of such integrated public utility system.

Findings of Fact Requested by the North American Company and Other Within Named Respondents

4.16. Wisconsin Electric owns all outstanding securities of The Milwaukee Electric Railway & Transport Company (hereinafter called the "Transport Company"), a Wisconsin corporation, which does the principal local transportation business in Milwaukee and also has interurban electric railway and motor bus services to certain nearby communities. (Tr. 1983) The electric business of Wisconsin Electric grew out of such transportation system and Wisconsin Electric conducted such transportation business directly until the segregation thereof in 1938, and directly or indirectly has conducted such transportation business in and about Milwaukee for fifty-one years. (Tr. 2131)

4.17. The operations of the Transport Company are joint with those of Wisconsin Electric in many respects, and each company utilizes personnel and facilities of the other, with resultant substantial economies. (Tr. 2024-2099) Wisconsin Electric sells to the Transport Company its entire electric requirements and devotes many facilities solely to the requirements of the Transport Company. (Tr. 1986)

4.18. The Transport Company is regulated by the Public Service Commission of Wisconsin, which supervises all contracts between affiliated companies in the Wisconsin Group. (Tr. 1714, 2210) There has always been joint regulation of the electric and transportation businesses in Milwaukee. (Tr. 1789-1791, 2407, 2410-2412)

4.19. Due to economic changes in recent years, the transportation business has become less profitable, and Wisconsin Electric is providing reserves against contingent loss on a

large portion of its investment in the Transport Company on a 10-year basis under the terms of a bank loan agreement. (Tr. 2418) The Transport Company's return is low in consequence of its low fares, which could not be continued if the intercompany relationship were terminated. (Tr. 2411, 2419) Any forced sale by Wisconsin Electric of such investment would be detrimental to the interests of its investors. (Tr. 2411-19)

4.20. Retention by Wisconsin Electric of its interest in the Transport Company is necessary or appropriate in the public interest or for the protection of investors or consumers, and not detrimental to the proper functioning of the integrated public utility system of the Wisconsin Group; and the transportation business of the Transport Company is reasonably incidental or economically necessary or appropriate to the operations of such integrated public utility system.

4.21. The Transport Company has a minority stock interest in Motor Transport Company, which renders a minor trucking service supplementary to the Transport Company's business, and owns Badger Auto Service Company, which conducts a minor parking lot and filling station business to utilize temporarily certain land owned by Wisconsin Electric and held either for future use or pending liquidation. (Tr. 1991-1992) Neither of such businesses is in any way detrimental to the utility services and retention of each results in substantial economies. (Tr. 2022)

4.22. The only other companies in the Wisconsin Group are Milwaukee Light, Heat & Trac on Company, and Hevi-

Duty Electric Company. The first of these is an inactive company and direct subsidiary of North American, owning 73.8% of the outstanding stock of Hevi-Duty Electric Company. (Resp. Ex. 147; Tr. 2003) Such latter company is a minor business which has been engaged for many years, in cooperation with Wisconsin Electric, in the development and manufacture of electric furnaces and other specialized appliances designed to increase the use of electricity. The operations of Hevi-Duty Electric Company have been benecial to the public and to the Wisconsin Group in the development of such appliances. (Tr. 2003, 2270)

4.23. Retention of the interests in Motor Transport Company, Badger Auto Service Company, Milwaukee Light, Heat & Traction Company and Hevi-Duty Electric Company is in each case necessary or appropriate in the public interest or for the protection of investors or consumers, and not detrimental to the proper functioning of the integrated public utility system of the Wisconsin Group; and each such business is reasonably incidental or economically necessary or appropriate to the operations of such integrated public utility system.

5. The St. Louis Group

5.1. The St. Louis Group consists of Union Electric Company of Missouri (hereinafter called "Union") and its subsidiaries hereinafter mentioned (all hereinafter collectively called the "Union Group") and also St. Louis County Gas Company (hereinafter called the "Gas Company"), a direct subsidiary of North American. Union, which is both a reg-

istered holding company and an electric utility company, and the Gas Company were incorporated under the laws of Missouri, in 1922 and 1904, respectively. (Tr. 3044, 3130)

5.2. North American holds all of the common stock of both Union and the Gas Company, representing a cost to North American of $51,840,781 and $4,100,000, respectively, and 33.37% and 81%, respectively, of the capital of such companies. (Resp. Ex. 125, 127, 147)

5.3. Union and its four utility subsidiaries, Union Electric Company of Illinois, Mississippi River Power Company, Iowa Union Electric Company and Cupples Station Light, Heat and Power Company, furnish electric utility service in a compact and continuous area in and around St. Louis, in Missouri and Illinois, and in small additional service areas around the Osage hydroelectric station in Central Missouri, and, in Iowa and Illinois, around the Keokuk hydroelectric station. The total service territory contains 3,100 square miles, with a population of 1,500,000. (Resp. Ex. 124; Tr. 2437) The electric operations of the Union Group are confined within a single area or region. (Resp. Ex. 142)

5.4. The electric utility system of the Union Group consists of six generating stations, together with transmission lines and distributing facilities. The utility assets of the Union Group are physically interconnected and are economically operated as a single interconnected and coordinated system. (Tr. 2535, 2738)

Findings of Fact Requested by the North American Company and Other Within Named Respondents

5.5. In addition to its electric business, Union Electric Company of Illinois operates a minor gas business in Alton, Illinois, and Iowa Union Electric Company operates a similar small gas business in Keokuk, Iowa. (Tr. 3119, 3123) In both cases, the gas service territory lies within the electric service territory. Such gas services account for only 0.57% of the total operating revenues of the Union Group. Such electric and gas operations of the Union Group are conducted jointly as a single coordinated system, utilizing joint management and personnel and many joint facilities. (Tr. 3121, 3127) Such joint operation results in substantial economies to both services and also in benefits and convenience to consumers, all of which would cease if the electric and gas businesses were divorced. (Tr. 3121, 3127)

5.6. The Gas Company furnishes gas service in a compact and continuous area of approximately 62 square miles in St. Louis County, Missouri, with a total population of 250,000, which territory lies within Union's electric service territory. (Tr. 3131)

5.7. The operations of the Union Group and the Gas Company are conducted under joint management and utilize many joint personnel and facilities. (Tr. 3152) Such joint operation results in substantial economies to the respective services and also in benefits and convenience to consumers, all of which would cease if the businesses were divorced. (Tr. 3153-3155)

5.8. Neither the electric nor the gas system of the St. Louis Group could be operated independently of the other

without the loss of substantial economies which can be secured by their retention under common control.

5.9. The electric and gas utility systems of the St. Louis Group, singly and in combination, are not so large as to impair the advantages of localized management.

5.10. The electric and gas utility systems of the St. Louis Group, singly and in combination, are not so large as to impair their efficient operation.

5.11. The electric and gas utility systems of the St. Louis Group, singly and in combination, are not so large as to impair the effectiveness of regulation.

5.12. The electric utility properties of the Union Group constitute a single integrated public utility system within the meaning of the Act, the gas utility properties of the Union Group and the Gas Company constitute a single integrated public utility system within the meaning of the Act, and in combination such systems constitute a single integrated public utility system within the meaning of the Act.

5.13. The only businesses of the Union Group other than the electric and gas operations above referred to consist of the heating business in the City of St. Louis, the coal business of Union Colliery Company, the small railroad operations of St. Louis & Belleville Electric Railway Company, and the land operations of Union Electric Land and Development Company. Such other businesses, individually and in the aggregate, account for only a minor part of the Union Group's total assets and gross revenues. (Tr. 2475, 3050, 3051; Resp. Ex. 143b) St. Louis & Alton Railway Company,

East St. Louis & Suburban Railway Company and East St. Louis Railway Company, the only other companies in the St. Louis Group, are either inactive or in process of liquidation. (Tr. 3051)

5.14. The Union Group supplies heating service in the business dictrict of St. Louis, which benefits the electric system by rendering unnecessary independent steam plants which could also generate customers' electric requirements. (Tr. 3095) The electric and heating businesses are conducted by the same organization and use much joint equipment, with resultant substantial economies. Conduct of the heating business by the Union Group benefits consumers and the community. (Tr. 3100-3104) Such heating business could not be sold without a substantial loss to the Union Group.

5.15. Union Colliery Company, a Missouri corporation, conducts a coal mining business eighty-five miles from St. Louis (Tr. 3107) Most of the coal so mined is sold to the Union Group and the Union Group buys most of its coal from or with the help of the Colliery Company. Coal is the most important commodity purchased by the Union Group. Ownership of the Colliery Company results in substantial economies to the Union Group in permitting more satisfactory coal arrangements than would be possible with outside interests. (Tr. 3115)

5.16. St. Louis & Belleville Electric Railway Company operates an electric freight line eleven miles long, terminating at East St. Louis, Illinois. Its principal business is hauling coal used by the Union Group. Ownership of the Railway Company has been beneficial to the utility services

and constitutes an insurance against coal shortages. (Tr. 3115-3117)

5.17. Union Electric Land and Development Company, a Missouri corporation, holds for liquidation excess land acquired as a result of development of the Osage hydro-electric station. Such land is being liquidated as rapidly as practicable, but will require substantial time for completion. (Tr. 3129)

5.18. Retention of the heating, coal, railway and land businesses above referred to is in each case necessary or appropriate in the public interest or for the protection of investors or consumers, and not detrimental to the proper functioning of the integrated public utility system of the Union Group, and each such business is reasonably incidental or economically necessary or appropriate to the operations of such integrated public utility system.

5.19. The operations of the holding company system of Union are limited to a single integrated public utility system and to such other businesses as are reasonably incidental or economically necessary or appropriate to the operations of such integrated public utility system.

5.20. If it is found that the holding company system of Union or the St. Louis Group includes any public utility system additional to the electric utility system of the Union Group, such additional system or systems meet the standards of Clauses (A), (B) and (C) of Section 11(b)(1) of the Act, and may be retained under common control with such electric utility system.

Findings of Fact Requested by the North American Company and Other Within Named Respondents

6. The North American Company Holding Company System

6.1. North American has on many occasions financed its subsidiaries directly and has also rendered assistance to them by planning, negotiating and supervising their public financing operations. No subsidiary has any financing expert on its staff, nor could maintain such an expert, comparable to those on the North American staff.

6.2. While North American's policy has resulted in strong localized management for its subsidiaries, it has aided such localized management by constant advice and consultation on general operating questions and important specific problems, and has rendered assistance in accounting, secretarial and other phases of the business.

6.3. The assistance of North American has resulted in substantial economies to its subsidiaries and could only be secured from it since a common financial interest and background of knowledge of the particular property are both essential thereto.

6.4. The period of growth and development of the operating subsidiaries has not ended and they will continue in the future to receive substantial benefits and economies from North American's aid.

6.5. Under North American's sponsorship, representatives of its principal operating subsidiaries have been in constant contact through various intercompany committees since 1921 and through other contacts, as a result of which the operating companies have, in effect, pooled their engineering

resources. The operating subsidiaries in the North American system derive substantial benefits and economies from their intra-system activities and contacts. A healthy rivalry between companies has been stimulated and there has been a general broadening influence on the operating company personnel. A common financial bond is the essential element in all such relationships and such benefits would cease if the holding company control were discontinued.

6.6. None of the integrated public utility systems in the North American holding company system could be operated as an independent system without the loss of substantial economies which can be secured by the retention of control by North American of such system.

6.7. The Middle States or Middle West, consisting of Kansas, Missouri, Iowa, Minnesota, Illinois, Wisconsin, Michigan, Indiana and Ohio, constitute a single economic region, and the operations of all public utility subsidiaries of the North American system, except those of the Washington Group, are confined to such region. (Resp. Ex. 142)

6.8. The combination of the Cleveland, Wisconsin and St. Louis Groups is smaller in many respects than many single utility systems. (Resp. Ex. 124)

6.9. The continued combination of the Cleveland Group, the Wisconsin Group and the St. Louis Group under the control of North American is not so large as to impair the advantages of localized management, efficient operation or the effectiveness of regulation, and North American's hold-

ing company system has secured the advantages of localized management, efficient operation and effective regulation for all such groups.

6.10. In addition to its major investments in the Washington, Cleveland, Wisconsin and St. Louis Groups, North American also has substantial minority interests in The Detroit Edison Company and Pacific Gas & Electric Company. (Resp. Ex. 147)

6.11. Detroit Edison is an electric utility operating in and about Detroit, Michigan. North American's investment, which began in 1903, consists of 19.21% of Detroit Edison's voting stock and represents a cost to North American of $29,822,316.04. Such investment represented in 1940 9.86% of North American's corporate assets and 7.49% of its gross corporate income. (Tr. 6917; Resp. Ex. 125, 143, 147)

6.12. Pacific Gas & Electric Company is a public utility operating in California. North American's investment, which began in 1925 with the acquisition of certain constituent properties, consists of 17.22% of Pacific Gas' voting stock and represents a cost to North American of $69,765,418.62. Such investment constituted in 1940 21.08% of North American's corporate assets and 20.44% of its gross corporate income. (Tr. 6917; Resp. Ex. 125, 143, 147)

6.13. Neither the investment in Detroit Edison nor in Pacific Gas has had any detrimental effect on the North American holding company system but, on the contrary, has contributed diversification and stability of earnings for North American. In the case of Detroit Edison, such in-

vestment is also valuable because it has facilitated exchange of information and contacts between Detroit Edison and North American's subsidiaries, with substantial benefits resulting therefrom. (Tr. 6937)

6.14. Retention by North American of its investments in Detroit Edison and Pacific Gas is, in each case, necessary or appropriate in the public interest or for the protection of investors or consumers, and not detrimental to the proper functioning of the integrated public utility systems of North American; and each such investment is reasonably incidental or economically necessary or appropriate to the operations of such integrated public utility systems.

6.15. North American also controls three non-utility subsidiaries, North American Utility Securities Corporation (hereinafter called "NAUS"), 60 Broadway Building Corporation (hereinafter called "60 Broadway") and West Kentucky Coal Company (hereinafter called "West Kentucky"). (Resp. Ex. 147).

6.16. NAUS was organized under the laws of Maryland in 1924 and all of its preferred stock and 80.62% of its common stock are owned by North American. NAUS is an investment company with a portfolio having a total market value at December 31, 1940 of approximately $4,667,865, consisting of a diversified list of marketable securities. The operating expenses of NAUS are negligible; it contributes diversity to the North American system and in no way interferes with the operations of the utility subsidiaries of North American. (Tr. 6939-45)

Findings of Fact Requested by the North American Company and Other Within Named Respondents

6.17. 60 Broadway was incorporated under the laws of New York in 1924 and owns a 25-story office building in the New York financial district in which are located the North American executive offices which occupy two floors and part of three other floors. North American's investment was made in such enterprise as protection against rising rents for its own offices. The investment yields a small income and has in no way interfered with the operations of the utility subsidiaries. North American's total investment at cost, in all outstanding stock and in open account, is $2,009,023, representing less than 1% of its corporate assets, and could only be disposed of at this time at a substantial loss. (Tr. 6947)

6.18. West Kentucky was incorporated under the laws of New Jersey in 1905, at which time North American first acquired a stock interest therein. North American presently owns 98.91% of the voting stock. West Kentucky owns and operates coal mines in Western Kentucky producing approximately 1,500,000 tons annually. Such investment was originally made to develop coal sources for the St. Louis Group. Sales of coal have been made to North American utility subsidiaries and West Kentucky insures a system coal supply for the future. North American's investment, constituting but 2⅓% of its total corporate assets, could not be disposed of without loss. (Tr. 6949-53; Resp. Ex. 147) Such investment in no way interferes with the operations of the utility subsidiaries. (Tr. 6952)

6.19. Retention by North American of its interests in NAUS, 60 Broadway and West Kentucky is in each case

necessary or appropriate in the public interest or for the protection of investors or consumers, and not detrimental to the proper functioning of the integrated public utility systems of North American; and each such business is reasonably incidental or economically necessary or appropriate to the operations of such integrated public utility systems.

6.20. North American is not engaged in the business of sending or transporting, or causing to be sent or transported, goods, merchandise or services in commerce with foreign nations or among the several States, or any other kind of interstate commerce; and North American makes use of the mails or other instrumentalities of interstate commerce only incidentally to its business as a holding company, which consists of investment in and holding of securities. (Tr. 7028, 7029)

6.21. The combined operation of several businesses by a public utility subsidiary of North American does not create any regulatory problems which are not inherent in the regulation of a single utility service, nor does it in any way impair the effectiveness of State regulation.

6.22. Size does not necessarily impair any advantages of localized management, efficient operation or effectiveness of regulation; and the size of the North American holding company system, as now constituted, in no way impairs the advantages of localized management, efficient operation or effectiveness of regulation.

6.23. The securities of the operating utility companies in the Cleveland, Wisconsin and St. Louis Groups could

not be marketed to any substantial extent in the respective service areas of such utility companies or the States in which they respectively operate, and even as to the small part of such securities which might be marketed in such service area or State, the probability is that it would not continue to be held there.

6.24. North American has engaged since 1890 in the holding of securities for investment, and since 1895 has confined its investments primarily to the electric business. (Tr. 6889)

6.25. North American's policy throughout its history has been characterized by acquisition of securities for long-term investment and by additions thereto through acquiring and consolidating adjacent properties, through investment in additional securities of the same enterprises and through leaving large amounts of undistributed earnings in its subsidiaries. (Tr. 6916, 6918-6920)

6.26. North American's investment policy has also been characterized by investment in different localities to obtain stability through diversification. The diversity so obtained has been and is of substantial value to the security holders of North American. (Tr. 6917)

6.27. North American has pursued sound and conservative financial practices both as to itself and as to its subsidaries. North American's policy has been to carry its investments at cost or less on its books of account. (Tr. 6921) North American's securities enjoy a favorable investment rating and are widely distributed, with a large

percentage of small holders and including many fiduciaries and institutions. (Tr. 6956, 6967-8)

6.28. During its entire history, North American has never defaulted in the payment of principal or interest on any indebtedness, nor has it ever failed to pay any preferred stock dividend when due and, except in 1908, it has paid dividends continuously on its common stock since 1903. (Tr. 6901-2) No public utility subsidiary of North American has ever defaulted in the payment of principal or interest on any indebtedness issued by it while a subsidiary of North American. With a single exception from 1896 to 1900, no public utility subsidiarry of North American has ever defaulted in the payment of dividends on any preferred stock issued while that company was a subsidiary of North American. (Tr. 6897, 6898)

6.29. North American and its subsidiaries have long followed the policy of complete disclosure of all relevant information to their stockholders, both through regular reports and on special inquiry. (Tr. 6958-6962, 6991)

6.30. North American's policy has been to develop a few sound, well organized and efficiently operated public utility subsidiaries which would render efficient service at the lowest cost to the consumer, and to make each of such companies a part of its own community with the most localized management possible, with a sound financial structure and full cooperation with regulatory bodies; and thereby to achieve soundness and stability for the security holders of North American. (Tr. 7024, 7025)

6.31. Investors in securities of North American and its several subsidiaries have been able to obtain the information necessary to appraise the financial position or earning power of the issuers, and both North American and its subsidiaries utilize, and in most cases for many years have utilized, uniform standard accounts.

6.32. Securities of subsidiary public utility companies in the North American system have been issued only with the approval or consent of the States having jurisdiction of such companies, and such securities have not been issued upon the basis of fictitious or unsound asset values having no fair relation to the sums invested in or the earning capacity of the respective properties, or upon the basis of paper profits from intercompany transactions, or in anticipation of excessive revenues from subsidiary public utility companies, and securities have not been issued by any subsidiary public utility company under circumstances which subjected such company to the burden of supporting an over-capitalized structure or tended to prevent voluntary rate reductions.

6.33. Subsidiary public utility companies in the North American system have not been subjected to excessive charges for services, construction work, equipment and materials, nor have they entered into transactions in which evils resulted from an absence of armslength bargaining or from restraint of free and independent competition.

6.34. Service, management, construction and other contracts involving allocation of charges have not been made

by North American or within its holding company system with subsidiary public utility companies so as to present problems of regulation which could not be dealt with effectively by the States.

6.35. Control of subsidiary public utility companies by North American or within its holding company system has not affected the accounting practices and rate, dividend and other policies of such companies, so as to complicate or obstruct State regulation of such companies, nor has control of such companies been exerted through disproportionately small investment.

6.36. The growth and extension of North American and its system has borne a relation to economy of management and operation and the integration and coordination of related operating properties.

6.37. In the North American system, there has been no lack of economy of management and operation of public utility companies, or lack of efficiency and adequacy of service rendered by such companies, or lack of effective public regulation, or lack of economies in the raising of capital.

6.38. The total assets of North American and its subsidiaries consolidated (Washington and Illinois Iowa Power Company and their subsidiaries not being so consolidated, but being included as investments) represent only 5.4% of the entire electric industry in the United States and both the total of such North American assets and its proportion of industry assets are substantially less than those of lead-

ing corporations in the industrial and railroad fields in the United States. Similarly, in such matters as annual sales or revenues, number of employees and number of States in which operations are conducted, North American and its subsidiaries consolidated are substantially smaller than many other leading companies in American industry. (Resp. Ex. 124)

7. NORTH AMERICAN LIGHT & POWER COMPANY

7.1. North American Light & Power Company (hereinafter called "NAL") is an intermediate holding company organized under the laws of Delaware in 1924, which in 1926 succeeded a predecessor corporation organized in 1915. (Tr. 6001)

7.2. North American first acquired an interest in NAL in 1926 when it purchased 42½% of its voting stock. Such interest was originally intended as a minority investment, but increased to a controlling interest after 1932 when North American was forced by the defaults of others to increase its stock interest substantially. North American's present stock interest in NAL consists of 83.49% of its voting stock. (Tr. 6006; Resp. Ex. 125, 147)

7.3. NAL's principal investments consist of a controlling interest in utility companies operating in Kansas and Missouri and substantial minority interests in Northern Natural Gas Company and in utility companies operating in Illinois and Iowa.

Findings of Fact Requested by the North American Company and Other Within Named Respondents

7.4. Control of NAL by North American has been beneficial both to investors and consumers in the NAL system since the NAL subsidiaries greatly improved their financial position, as well as their rates and service, after North American acquired control of NAL. (Tr. 7226-27, 6133-48)

7.5. In view of the impending dissolution of NAL and the disposition of its assets in liquidation, no further findings with respect to that company or its subsidiaries are necessary so far as regards their relations with North American.

Respectfully submitted,

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UNITED STATES OF AMERICA

BEFORE THE

SECURITIES AND EXCHANGE COMMISSION

IN THE MATTER

of

THE NORTH AMERICAN COMPANY

and its

SUBSIDIARY COMPANIES

Respondents.

File No. 59-10

Public Utility Holding Company Act of 1935,
Section 11(b)(1)

REPLY BRIEF ON BEHALF OF THE NORTH AMERICAN COMPANY AND OTHER WITHIN NAMED RESPONDENTS

This brief is filed on behalf of The North American Company (hereinafter called "North American") and all of its subsidiaries which are Respondents in this proceeding (other than North American Light & Power Company and its subsidiaries). There are considered herein not only certain legal issues but also various statements in the brief of counsel for the Commission.

Reply Brief on Behalf of the North American Company and Other Within Named Respondents

1. ELECTRIC AND GAS FACILITIES MAY IN COMBINATION CONSTITUTE A SINGLE INTEGRATED SYSTEM WITHIN THE MEANING OF THE ACT.

This issue has been discussed at length in the memorandum, dated March 6, 1941, of William Clarke Mason, Esq., in the U. G. I. proceeding under Section 11(b)(1). To avoid duplication, we ask leave of the Commission to incorporate herein by reference the contentions set forth in such memorandum filed by Mr. Mason.

In addition, we submit that the facts in the North American proceeding itself clearly show that the position of the Commission's staff on this question cannot be sustained; and we therefore strongly urge upon the Commission that it reconsider its tentative conclusions, not only as a matter of general statutory construction but also on the basis of the uncontroverted evidence in this proceeding.

The only gas properties involved in the North American proceeding are in the St. Louis and Wisconsin Groups. In two of the three instances in St. Louis, these very gas properties have previously been recognized by this Commission to constitute jointly with the same electric properties a single integrated system. *Matter of East St. Louis Light & Power Company,* 2 SEC 361 (1937); *Keokuk Electric Company,* 2 SEC 963 (1937). These two cases dealt with the merger and reorganization in which Union Electric Company of Illinois and Iowa Union Electric Company acquired, with the approval of this Commission, the very gas properties now under discussion. In each case, the Commission expressly found that the requirements of Section 10(c) had been sat-

isfied, which necessarily included the statutory condition that the acquisition tended toward "the economical and efficient development of an integrated public utility system". Accordingly, if the Commission now holds that these gas properties cannot constitute a single integrated system with the same electric properties as were involved in its former decisions, it is directly reversing such former decisions and thus violating the basic principles of *res adjudicata*. We submit that such result must be avoided in the interest of any consistent administration of the Act.

It is further clear upon the examination of the record here that all of the gas properties in question do *in fact* constitute a single system with the electric properties. From the executives of the respective systems down to the meter readers, repair men and clerks, the same organization, and to a large extent the same personnel, handles both electric and gas operations. A great deal of the same equipment is used for both operations and many of the general facilities, such as main offices, branch offices, garages, etc. are likewise used jointly. Thus, *in fact*, the two operations constitute one system, and certainly any reasonable construction of the Act would permit the recognition of realities.

We submit that the proper rule which the Commission should adopt is that, as a matter of law, electric and gas facilities may constitute a single integrated system, but that whether they do in any particular case will depend upon its own facts. This pragmatic test is obviously in accord with the legislative intent and permits the Commission to reach a sensible and practical result in each case dependent upon its own facts. If such interpretation be adopted, there can

be no question on the facts here that the electric and gas facilities do constitute a single integrated system both in the St. Louis Group and in the Wisconsin Group.

2. THE PROPER INTERPRETATION OF "REASONABLY INCIDENTAL OR ECONOMICALLY NECESSARY OR APPROPRIATE".

We recognize that the proper interpretation of this clause has already been argued at length before the Commission and particularly the contention (which the Commission has rejected) that neither the clause nor any other provision of Section 11(b)(1) imposes any restriction on minority utility investments, a question of importance in this case, because of North American's minority holdings in Detroit Edison* and Pacific Gas & Electric Company. Accordingly, we will not further argue this aspect of the minority utility investment question, except to reiterate the position that Section 11(b)(1) should not be deemed to restrict or to apply in any way to such holdings of North American. We ask leave in this connection to incorporate by reference the Respondents' Memorandum dated March 6, 1941, in the U.G.I. proceeding, which dealt with this matter.

In disposing of this question in the U.G.I. proceeding, the Commission stated:

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*Note: While the Circuit Court of Appeals has affirmed the Commission's holding that Detroit Edison is a subsidiary of North American, the question of further appeal is still pending and, in any case, North American has started to reduce its interest therein. The dividend recently declared on North American's common stock, payable in capital stock of Detroit Edison, will reduce North American's holdings from 19.21% to approximately 16.78%, and four of such dividends would reduce the holding to less than 10%.

"We must conclude that the two clauses in Section 11(b)(1) which refer to the retention of other businesses, when taken together, mean that the Commission must permit the retention of other businesses, including investment interests in utilities not subsidiaries, which are found to be reasonably incidental or economically necessary or appropriate to the operations of an integrated public utility system retainable under the control of the holding company, and that as to both investments in non-utilities and interests in non-utilities sufficient to create the statutory parent-subsidiary relationship, these standards may be met if the retention of the investments or other interests is found to be necessary or appropriate in the public interest or for the protection of investors or consumers and not detrimental to the proper functioning of such system or systems." (H. C. Act Release 2692)

Turning to the brief of Commission counsel in this proceeding, we find that even the Commission's interpretation is now not sufficiently restrictive for the staff. The proposition is now advanced that "incidental", as used in the Act, "conveys an impression of that which arises, or is done, as ancillary to or functionally related to a greater and principal undertaking" and that the expression "economically necessary or appropriate" should likewise be given "its obvious meaning of functional relationship", since it appears "in close conjunction with the expression 'reasonably incidental'." (Commission's brief, pages 29, 30) Counsel never attempts to apply the final sentence of Section 11(b)(1), and under his construction it is presumably to be ignored.

The obvious result of Commission counsel's proposed interpretation is to destroy the most important aspect of the

statutory tests, a series of separate alternatives. Indeed, the clearest conclusion gained from a study of the statute is that Congress intended to give wide latitude on other businesses and to that end gave a series of various alternative tests, any one of which would suffice. The Commission is now asked to violate the Congressional intent by holding that all of the alternatives have only one meaning, a narrow and vague rule of "functional relationship".

The interpretation suggested is particularly remarkable because Congress, having first established the test of "reasonably incidental, economically necessary or appropriate", later inserted the long additional sentence at the end of Section 11(b)(1). Had the earlier phrase meant only "bearing a functional relationship", why was the final sentence necessary? Thus, in effect, Commission counsel now asks the Commission to disregard eight lines of Section 11(b)(1). We submit that such a distortion of the statute cannot be permitted and that each of the alternatives must be given full weight.

The first alternatives offered are, of course, in the original phrase "reasonably incidental or economically necessary or appropriate". "Incidental" is defined by the Webster and Century dictionaries as "happening as a chance or undesigned feature of something else; casual; subordinate; occurring or liable to occur in connection with something else; happening in fortuitous or subordinate conjunction with something else". Based upon these definitions, obviously the relative size of the other business would be material, as would be some likelihood of occurrence. These tests would easily be satisfied by the other businesses in this proceeding

since they are of either minor importance or of long and normal historical connection, as, for example, the transportation operations.

In dealing with the word "incidental", Commission's counsel cites a series of cases relating to the construction of corporate charters. None of these cases is in point, since it is a well established principle that corporate powers are to be strictly construed. *Fertilizing Company* v. *Hyde Park*, 97 U. S. 659 (1878), *Fletcher, Cyclopedia Corporation* (1931), Vol. 7, Section 3646. On the contrary, the Act, which operates retroactively and in derogation of existing property rights, must be liberally construed.

"Economically necessary" would seem to speak for itself and would be a strict test. "Economically appropriate", on the other hand, obviously offers much latitude, since the word "appropriate" is defined in the Webster and Century dictionaries as "suitable, fit or proper". Thus, any other business, the conduct of which was suitable or proper in connection with the utility system would meet the test. Among examples to be found in the North American case, we may refer to the minority utility investments and to such other activities as the coal business of Union Colliery Company in the St. Louis Group, which furnishes most of that utility's principal raw material. Any of these offers an excellent example of "economically appropriate". History would likewise have some bearing here, as the fact that such investments have been held and activities conducted advantageously for many years is one of the best practical proofs that they are "economically appropriate".

Turning to Congress' own addition in the final sentence of Section 11(b)(1) and to the Commission's decision in the U.G.I. proceeding, we find a further series of alternatives. A business is reasonably incidental or economically necessary or appropriate if it is

Necessary *or* appropriate
- (i) in the public interest
- *or*
- (ii) for the protection of investors
- *or*
- (iii) for the protection of consumers

and

Not detrimental to the proper functioning of such system or systems

Taking up the last and essential condition first, it is completely disposed of in this case. There is not a scintilla of evidence that any of the other businesses, either in a subsidiary group or North American itself, is or ever has been to the slightest degree detrimental to the proper functioning of any of the utlity systems. On the contrary, the uncontradicted evidence shows clearly in every case that the other business has not been detrimental to the utility systems. The testimony in this regard is reviewed in our principal brief.

As to the three preceding alternatives, it is clear that Congress was establishing three entirely different tests, based upon the class of persons affected, the public generally, con-

sumers and investors, so that such tests should be separately applied.

As to the first phrase, "appropriate in the public interest", we should again note the accepted dictionary meaning for appropriate of "suitable, fit or proper". The fact that similar statutory phrases have been judicially construed should also be noted. Thus, in *Pacific Power & Light Company, et al.* v. *Federal Power Commission,* 111 F. 2d 1014 (1940), the Circuit Court of Appeals held:

> "The phrase 'consistent with the public interest' does not connote a public benefit to be derived or suggest the idea of a promotion of the public interest. The thought conveyed is merely one of compatibility. Congress resorted to this language rather than to the use of the stock term 'public convenience or necessity', or to such phrases as 'in furtherance of' or 'will promote the public interest' used in its interstate commerce legislation (later considered); and the language employed ought to be construed to mean no more than it says. It is enough if the applicants show that the proposed merger is compatible with the public interest. The Commission, as a condition of its approval, may not impose a more burdensome requirement in the way of proof than that prescribed by law. . . . Suffice it to say that the statute does not require a showing that positive benefit to the public will result . . ." (Pages 1016, 1017)

It suffices, therefore, in the case of any business to show that it is compatible with the public interest, with no burden of showing affirmative public benefit.

Applying this correct interpretation, it is clear that every incidental business in the subsidiary groups and of North

American itself meets the statutory test. There is no evidence whatever that the retention of any such interest in any of these businesses in any way is injurious to the public. On the contrary, and though not required as a matter of law, there is a great deal of evidence of affirmative public benefit, as shown in the discussion in our principal brief. Among other examples of this, reference can be made to the various transportation businesses and to the pioneer electric appliance development work of Hevi-Duty Electric Company in the Wisconsin Group.

"Appropriate for the protection of investors" obviously authorizes retention where a forced sale would injure investors in the particular company conducting or controlling the business. In most cases, as shown by the discussion in our principal brief, the evidence is conclusive that any forced divestment would injure investors in the particular company. As one example, the evidence clearly shows that forcing North American to sell its New York office building under existing real estate conditions would materially injure North American's investors. Other examples are the transportation businesses in Washington and Milwaukee. In this connection, it may be noted that only within the last week, the losses incident to forced liquidation received Congressional recognition, since one purpose of Senate Bill 1438, which expanded the authority of the Reconstruction Finance Corporation to make loans to foreign governments, was

> "to enable those countries whose defense is deemed vital to the United States to liquidate their American interests

. . . without sustaining the exorbitant losses customarily incident to a forced liquidation."

"Appropriate for the protection of consumers" looks to still another class. If the conduct of the other business results either in better service or reduced expenses, it is obviously to the interest of consumers, as well as investors. In no instance in this proceeding does any incidental business work to the detriment of consumers and, on the contrary, as the evidence affirmatively shows, most of the incidental businesses result in substantial economies. Among other examples here are the transportation and coal businesses.

The proper interpretation of this entire phase of the Act, as above urged, was adopted by the Commission in its decision in the *American Water Works* case (H. C. Release 949). In that decision the Commission expressly authorized the retention by the holding company of subsidiaries conducting water businesses which constituted 30% of the total business of the holding company system, stressing that they contributed "a stable source of revenue." Such reasoning directly applies in this case to North American's minority holdings in Detroit Edison and Pacific Gas & Electric Company which, as the evidence shows, contribute both diversity and stability of income to North American's security holders.

The Commission further found that a coal business "would seem to bear an intimate relation to the operations of the gas and electric utility companies" and, in authorizing the retention of electric railway, bus transportation and bridge businesses in the American system, the Commission stated that it

"realizes that these are in the nature of an inheritance from an earlier age when electric transportation was of more importance than the business of electrical distribution. . . . In view of these facts and of the minor importance of the applicant's interests in these businesses relative to its other operations, and in consideration of the difficulty which the applicant would face in satisfactorily disposing of its interests in these transportation businesses, the Commission finds that their retention is necessary and appropriate in the public interest, and is not presently detrimental to the proper functioning of the applicant's integrated public utility system. . . ."

Accordingly, it is submitted that both the proper interpretation of the act, and the application of the Commission's own decision in an earlier case, together with the uncontradicted evidence in this proceeding, require affirmative findings by the Commission that North American may retain its minority utility investments and all of the other businesses controlled within the holding company system.

3. THE PROPER CONSTRUCTION OF THE A, B AND C STANDARDS OF SECTION 11(b)(1).

The A Standard

The first of the three statutory tests for the retention of additional public utility systems under the proviso of Section 11(b)(1), is to show that each such additional system cannot be operated independently without the loss of "substantial economies", which can be secured by retention in the holding company system.

Counsel for the Commission has contended in his principal brief that no one of the four electric utility systems controlled by North American meets the requirements of the A Standard, basing his conclusion upon the reasoning that each is large enough to stand alone on its own feet. Obviously, this contention has nothing whatsoever to do with the statutory test. The sole issue presented is whether or not "substantial economies" will be lost by a separation from the North American system. We are not maintaining that the Cleveland, Wisconsin or St. Louis systems could not function if severed from the North American system. What we are maintaining, however, as being fully supported by the record, is that substantial economies will be lost if any one of these systems is separated from the North American system.

As to the proper meaning of the term "substantial", this has been frequently the subject of judicial construction. In *In re Krause's Estate,* 21 P. (2d) 268 (Sup. Ct. Wash. 1933), an important issue involved in a will contest was whether one of the parties had "substantially benefited" a portion of the real estate in question. As to the meaning of the term "substantial", the Court stated:

> " 'Substantial' as an adjective means something worth while as distinguished from something without value, or merely nominal. Webster's New International Dictionary. 3 Bouvier's Law Dictionary (3d Ed.). In its ordinary parlance 'substantially benefited' in a contract would mean some worth-while advantage, profit, or good." (Page 270)

See also *Miller* v. *Commissioner of Internal Revenue*, 81 F. (2d) 415 (C.C.A. 7th, 1936), (involving the construction of the phrase "substantial interest" in its commonly accepted legal sense); *Consolidated Edison Co. of New York* v. *National Labor Relations Board*, 305 U. S. 197, 229 (1938) and *National Labor Relations Board* v. *Union Pacific Stages*, 99 F. (2d) 153 (C.C.A. 9th, 1938) (both with respect to the meaning of "substantial evidence").

In *In the Matter of Public Service Company of Oklahoma* (H. C. Release 2277), this Commission was called upon to determine whether the holding company there involved received a "material part of its income" from a subsidiary, within the meaning of Section 3(a)(1) of the Act. In attempting to establish a meaning for the phrase "a material part of its income", the Commission stated:

> "We think that the standard . . . connotes income the loss of which would be something more than *de minimis* to the company concerned."

Thus, broadly speaking, the term "substantial", or the similar phrase "material", would seem to mean "something worth having", as distinguished from something purely nominal or *de minimis*.

It is submitted that the evidence already discussed in our principal brief establishes conclusively that economies of a substantial nature will be lost by each of the Cleveland, Wisconsin and St. Louis systems in the event of any forced separation from the North American system.

Reply Brief on Behalf of the North American Company and Other Within Named Respondents

The B Standard

The proper interpretation of the B Standard has been argued at such length before the Commission that we again seek to avoid duplication by adopting the arguments set forth in the Respondents' memorandum, dated March 25, 1941, in the Engineers Public Service Company proceeding and in the Respondents' brief of points and authorities, dated April 3, 1941, filed in the Commonwealth & Southern proceeding.

As set forth in such memorandum and brief, the staff's proposed interpretation of the B Standard violates the plain language of the statute, ignores the first fundamentals of statutory construction and is in square contradiction of the legislative intent. We submit that the words of the statute should be given their plain and unmistakable meaning.

Applying the proper interpretation of the B Standard to the North American case, it is clear that the retention of the St. Louis, Wisconsin and Cleveland Groups meets the statutory tests. All of the States involved (Missouri, Iowa, Illinois, Wisconsin, Michigan and Ohio) adjoin. If the St. Louis Group be deemed the principal system, with its properties in Missouri, Iowa and Illinois, then obviously Wisconsin, Michigan and Ohio are adjoining. This is likewise true if the Cleveland Group is the principal system. There can be no basis for any objection that each State does not adjoin each other State, because not only did Congress not impose such a requirement, but it would be entirely arbitrary and unreasonable to adopt such a construction. For example, in our own case, if the Wisconsin Group otherwise constitutes a proper system secondary to the St. Louis Group, why should the fact that the Wisconsin Group's properties

are in small part in Michigan prevent the otherwise reasonable result? The statutory phrase is "in adjoining States", and in the North American case the States are adjoining.

The C Standard

We again incorporate by reference here the above-mentioned Respondents' memorandum and brief in the Engineers Public Service Company and Commonwealth & Southern proceedings. As there shown, the C Standard is applicable only to the combination of secondary systems.

Assuming for the purposes of argument, however, that the C Standard does apply to the combination of the *principal and secondary* systems, we submit, for the reasons set forth in our principal brief, that the *combination* of the St. Louis, Wisconsin and Cleveland systems meets any statutory test under Clause C.

Commission counsel's discussion of the C Standard in its application to the facts of the present proceeding is a masterpiece of vagueness and generality:

> "Certainly, the Commission can take notice of the well-known fact that this system in respect to capitalization and assets is the second or third largest in the United States. If it is not so large as to be precluded by paragraph (C) from continuing in its present magnitude, then paragraph (C) would seem to have no meaning." (Commission's Brief, page 51)*

**Note*: This statement ignores the impending liquidation of North American Light & Power Company and North American's program for disposition of its interest in the Washington Group, which will greatly reduce North American's consolidated assets. As the Commission is also aware, North American has now commenced the reduction of its minority holdings in Detroit Edison by declaration of a dividend in stock of that company.

The brief then suggests that, while each of the single systems meets the size test, each "approaches the point" at which it might be too large, and concludes that:

> "Nevertheless, joint control of any two of these great systems would constitute the continuance of a combination so large as to be in patent conflict with paragraph (C) of Section 11(b)(1)." (Commission's Brief, page 52)

These are bare conclusions, unsupported by any reference to testimony or cases, or even by any argument. In other words, the size tests are applied in a complete vacuum, with neither supporting facts nor logic.

The basic position of these Respondents is that the size tests are so vague as to be meaningless and without basis in reason. The staff asserts that they are proper and constitutional tests. If so, there certainly should be some sensible rule or basis for their application, but the staff has apparently been unable to develop one. Indeed, the staff has made no attempt whatever to apply the tests, or even to discuss the evidence relative thereto.

In our brief on the proposed findings, as contrasted with the vague generalities of the staff's brief, we discussed in detail each of the three tests under Standard C, as applied to the three system combination, and showed that on a combination basis there are and would be all the advantages of localized management, efficient operation and the effectiveness of regulation. We further showed that, on both absolute and relative bases, North American's three system combination was smaller than other well recognized *single* utility systems, and far smaller than other leading corporations in American industry. We submit, therefore, that the

vague generalities of the staff must be rejected and that on any basis the C Standard is met by the three system combination.

4. THE ELECTION OF A PRINCIPAL SYSTEM.

Counsel for the Commission refers at several points in his brief to the fact that North American has not yet elected its principal system.

The only statutory mandate is that each registered holding company shall limit its operations to "a single integrated public utility system" and to the permissible other businesses and secondary systems, and any holding company which took the requisite action to this end would have complied with the provisions of Section 11(b)(1). The Act does not require, either expressly or by implication, that the holding company designate which of the systems shall be its principal system and no such additional requirement can be added to the statute.

The point is obviously material in the present case when the only issues concern three concededly integrated systems, the St. Louis, Wisconsin and Cleveland Groups. If, however, the Commission should overrule our contention that all three of such systems may be retained, then in any case North American should have the right to dispose of its interests in any of such Groups as circumstances permit, without being bound in advance to determine which system would be retained. Such right is obviously of value to North American because which of the systems would first be sold may well, and probably will, depend upon future market conditions which are beyond its control. Thus, any order in this proceeding should give to North American the option of

retaining any one of the three systems as a principal system, with the others as secondary systems. A precedent for such alternative type of order is found in the Commission's own procedure in the Engineer's Public Service and Commonwealth & Southern proceedings, where alternatives are dealt with.

Even if the Commission should reject our views expressed above, it is the further position of North American that, in any case, it alone would have the right to elect the principal system, and only within a reasonable time after it was expressly required to make such election.

5. UNCONSTITUTIONALITY OF SECTION 11(B)(1).

The Respondents, in their answers in this proceeding, have asserted the unconstitutionality of the provisions of Section 11(b)(1) of the Act and have requested various findings of fact bearing on that issue. Since we understand that the Commission has repeatedly refused to pass upon the constitutionality of the Act and refuses to do so in this case, we omit discussion of constitutional questions.

Respectfully submitted,

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CHARLES S. HAMILTON, JR.,
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BROOKLYN
CHAGRIN FALLS
CLEV

HEIGHTS
HEIGHTS
DOVER
EAST CLEVELAND
EUCLID
FAIRVIEW
GARFIELD HEIGHTS
GATES MILLS
GLENWILLOW
HIGHLAND HEIGHTS
HUNTING VALLEY
INDEPENDENCE
LAKEWOOD
LINNDALE
LYNDHURST

OLMSTED FALLS

PARMA
PARMA HEIGHTS
PEPPER PIKE
RICHMOND HEIGHTS
ROCKY RIVER
SEVEN HILLS
SHAKER HEIGHTS
SOLON
SOUTH EUCLID
STRONGSVILLE
UNIVERSITY HEIGHTS
VALLEY VIEW
WARRENSVILLE HEIGHTS
WEST VIEW

L A K E

AVON
AVON
AV
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AVON LAKE
LR
LAKELINE
WILLOWICK
WICKLIFFE
LAKE SHORE
LS
EC
GV
SC
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DN
HT
PS
PA
PV
DV
CN
W
WD
AL
LD
W
MS
WT
CLEVELAND AND SUBURBS
(CUYAHOGA COUNTY)
NB
KM
CL
HP
GT
WL
KO
WN
OH
NR
SN
BP
BL
PV
NF
FW

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Vol. X

TRANSCRIPT OF RECORD

Supreme Court of the United States

OCTOBER TERM, ~~1942~~ 1942

No. ~~721~~

THE NORTH AMERICAN COMPANY, PETITIONER,

vs.

SECURITIES AND EXCHANGE COMMISSION

ON WRIT OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE SECOND CIRCUIT

PETITION FOR CERTIORARI FILED FEBRUARY 10, 1943.

CERTIORARI GRANTED MARCH 1, 1943.

SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 1942

No. 721

THE NORTH AMERICAN COMPANY, PETITIONER,

vs.

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ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE SECOND CIRCUIT

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#21 - NOTE - THIS IS THE ORIGINAL TRACING FROM WHICH IS PRINTS HAVE BEEN RUN FOR MR LINDSETH 7-11-40 F

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

SYSTEM MAP

IN DOUBLE CROSS HATCHED AREAS, DISTRIBUTION LINES
ARE TOO NUMEROUS TO BE SHOWN SEPARATELY.

CROSS HATCHED AREAS ARE INCORPORATED

AS OF JULY 1, 1940

(REVISED JULY 26, 1940)

CLEVELAND AND SUBURBS
(CUYAHOGA COUNTY)

BAY
BEACHWOOD
BEDFORD
BENTLEYVILLE
BRATENAHL
BRECKSVILLE
BROADVIEW HEIGHTS
BROOK PARK
BROOKLYN HEIGHTS
BROOKLYN
CHAGRIN FALLS
CLEV[illegible]IGHTS
[illegible]EIGHTS
[illegible]VER
EAST CLEVELAND
EUCLID
FAIRVIEW
GARFIELD HEIGHTS
GATES MILLS
GLENWILLOW
HIGHLAND HEIGHTS
HUNTING VALLEY
INDEPENDENCE
LAKEWOOD
MAPLE HEIGHTS
MAYFIELD HEIGHTS
MAYFIELD
MIDDLEBURGH HEIGHTS
MORELAND HILLS
NEWBURGH HEIGHTS
NORTH OLMSTED
NORTH RANDALL
NORTH ROYALTON
OLMSTED FALLS
ORANGE
PARKVIEW
PARMA
PARMA HEIGHTS
PEPPER PIKE
RICHMOND HEIGHTS
ROCKY RIVER
SEVEN HILLS
SHAKER HEIGHTS
SOLON
SOUTH EUCLID
STRONGSVILLE
UNIVERSITY HEIGHTS
VALLEY VIEW
WARRENSVILLE HEIGHTS
WEST VIEW

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1 INCH = 3 MILES

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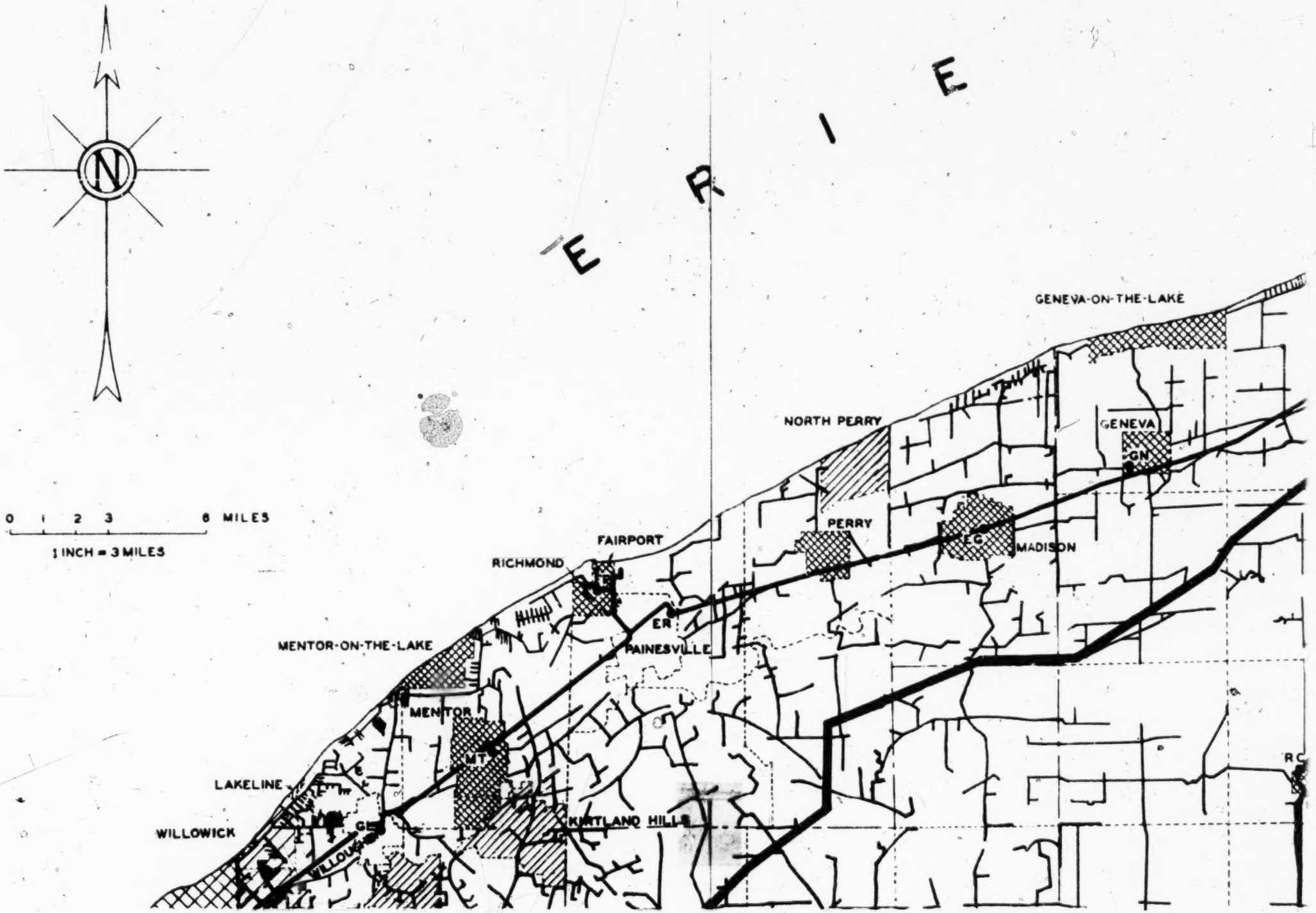
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GENEVA
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MADISON
FAIRPORT
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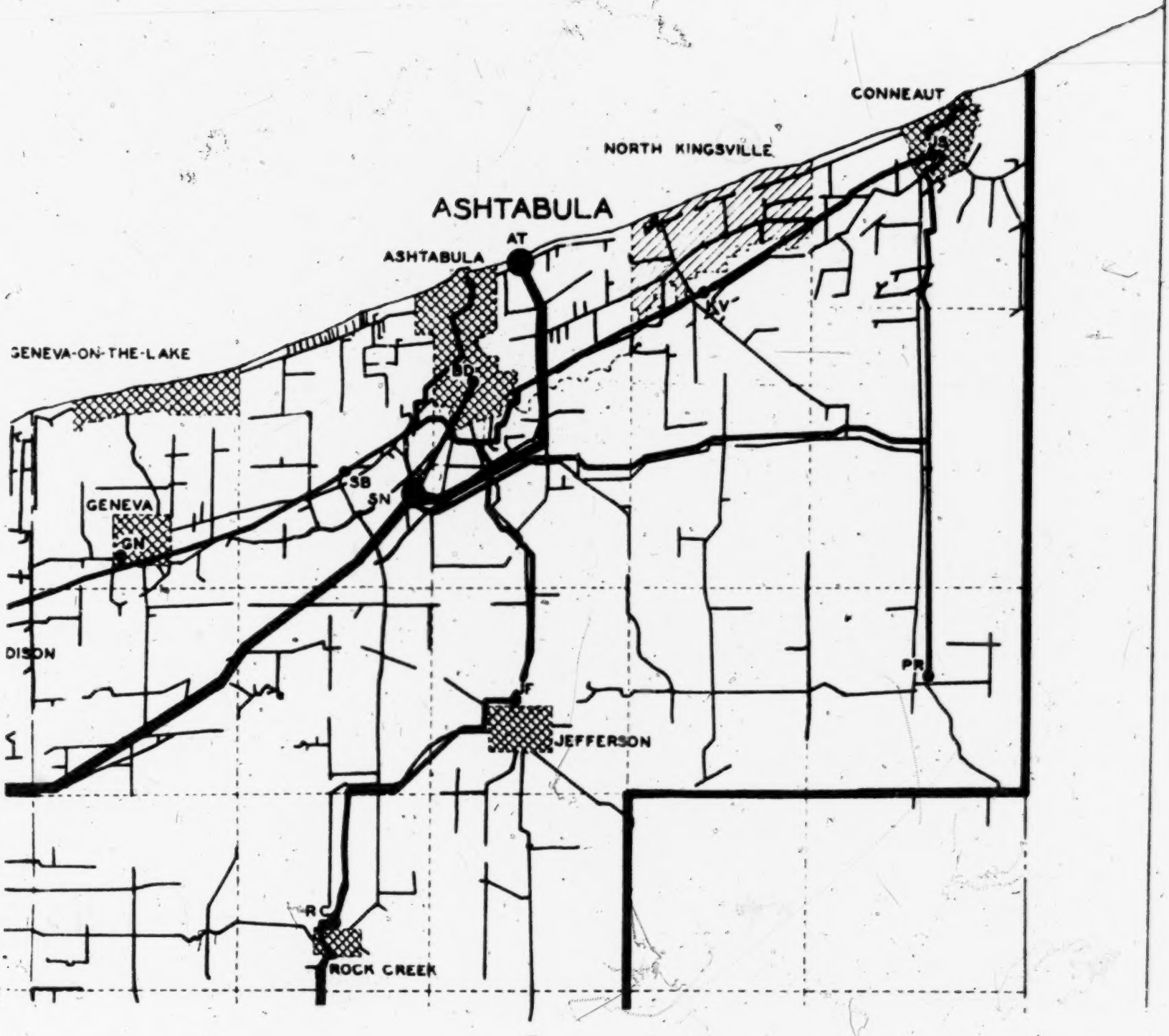
ER
PAINESVILLE
MENTOR-ON-THE-LAKE
MENTOR
MT
LAKELINE
WILLOWICK
GE
WILLOUGHBY
KIRTLAND HILLS
RC


CONNEAUT
NORTH KINGSVILLE
ASHTABULA
AT
ASHTABULA
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SB
SN
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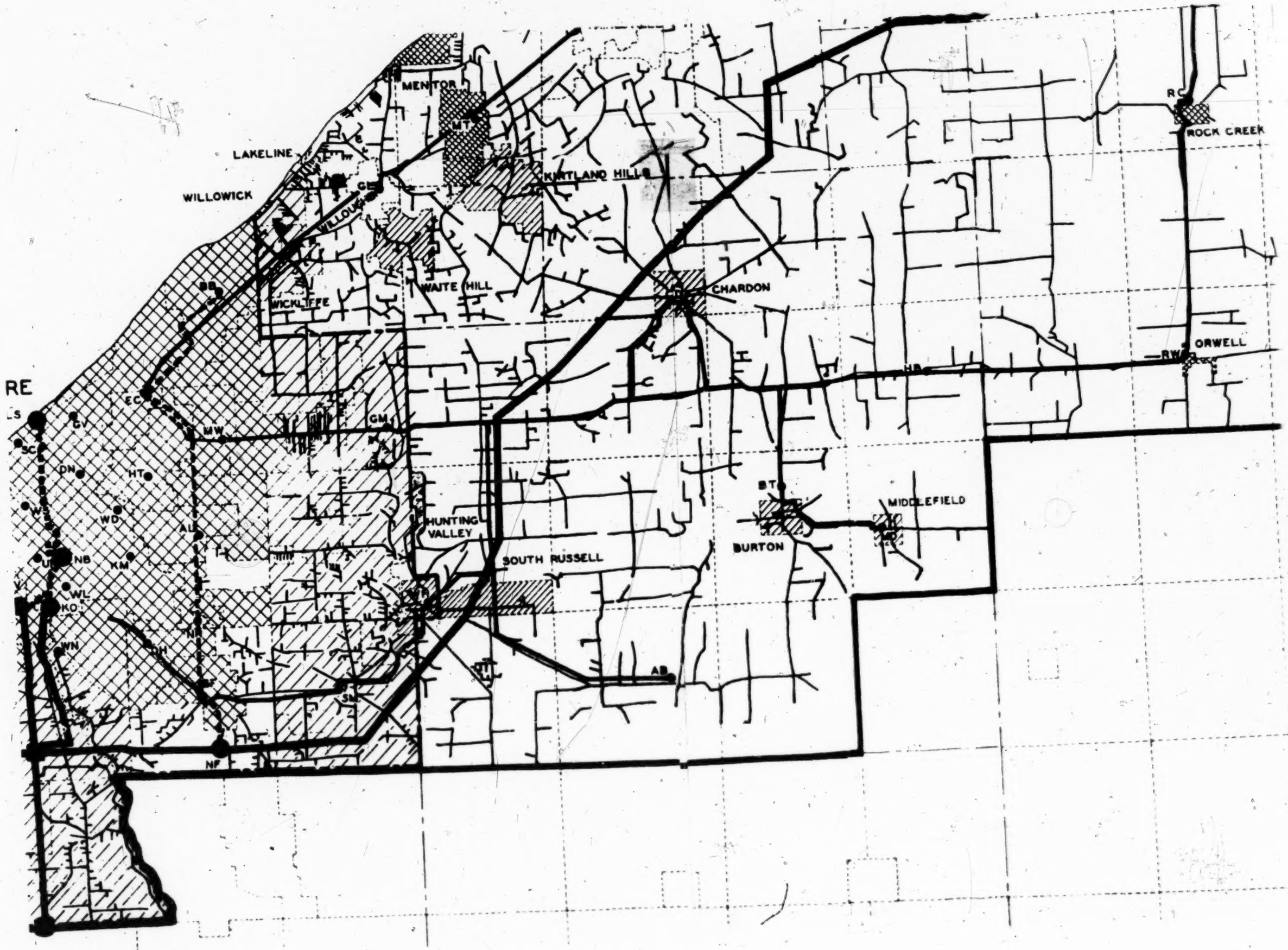
GN
DISON
PR
JF
JEFFERSON
R
ROCK CREEK


MENTOR
MT
LAKELINE
WILLOWICK
GE
WILLOU
KIRTLAND HILLS
WAITE HILL
WICKLIFFE
BB
CHARDON
ROCK CREEK
RC
ORWELL
RW
HB
RE
LS
EC
GV
MW
GM
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HUNTING VALLEY
SOUTH RUSSELL
BT
BURTON
MIDDLEFIELD
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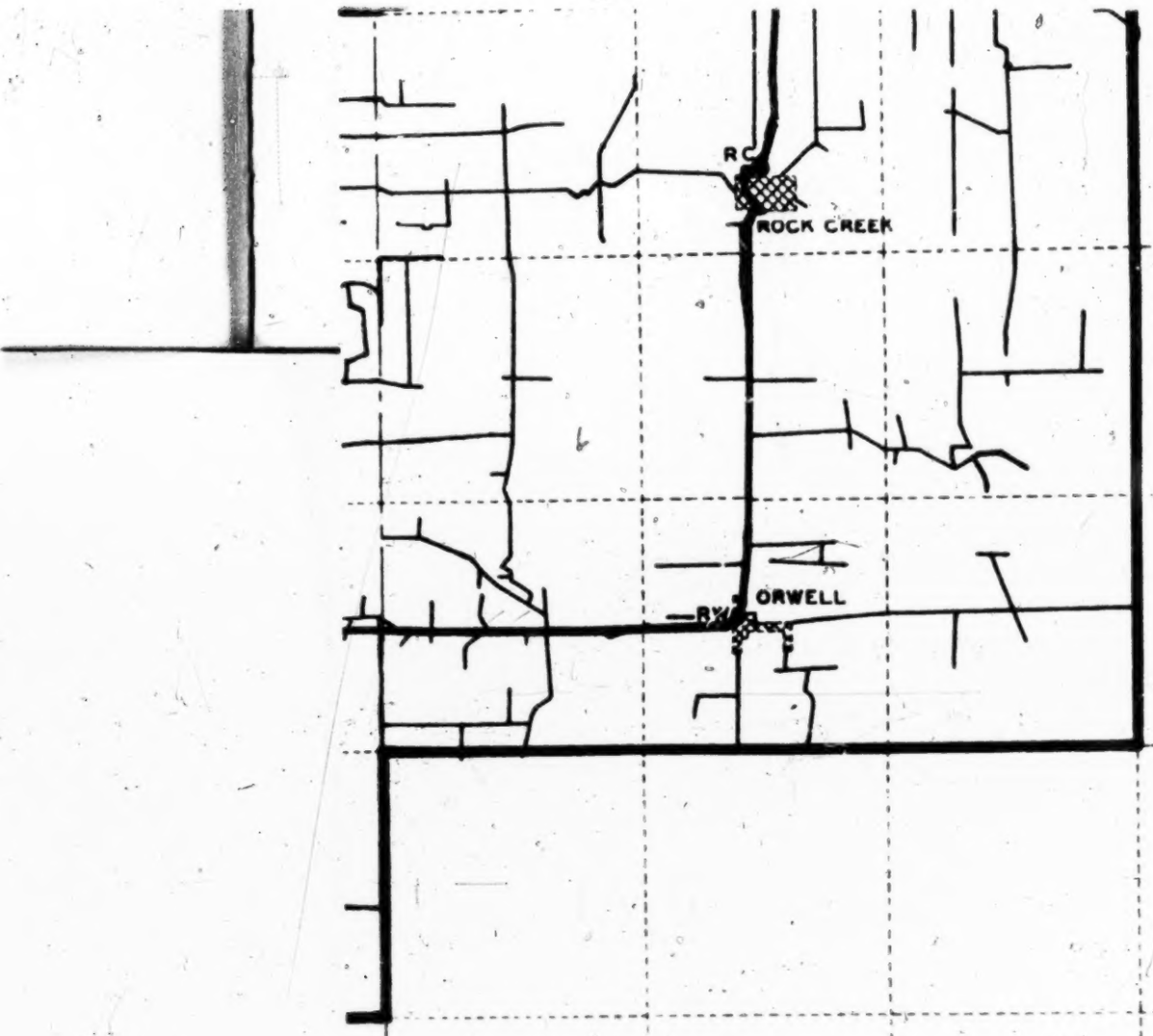
ROCK CREEK
ORWELL

THE CLEVELAND · ELECTRIC ILLUMINATING COMPANY

ORGANIZATION CHART

APRIL 1, 1940

BOARD OF DIRECTORS

PRESIDENT
E. G. CRAWFORD

SECRETARY
S. L. HALL

ASSISTANT
R. R. LUCAS

ASSISTANT SECRETARY
PENSIONS
C. L. MILLS

GENERAL COUNSEL
F. M. COBB

CLAIM AGENT
R. H. HOLCOMB

REAL PROPERTY
J. B. SMITH

CONTROLLER
R. H. SMITH

CONSUMERS ACCOUNTING
H. R. SHIRVING
SUPERINTENDENT

GENERAL ACCOUNTING
L. F. SCHOLLEY
AUDITOR

BUDGET ACCOUNTING
H. C. PATMORE
SUPERVISOR

CONSTRUCTION COSTS
F. E. STOLLER
SUPERINTENDENT

ASSISTANT TO
THE PRESIDENT
F. J. RYAN

ASSISTANT TO
THE PRESIDENT
B. E. LING

VICE PRESIDENT AND
GENERAL MANAGER
H. W. HOUGH

MEDICAL SERVICE
G. A. WEBER M.D.
H. B. WRIGHT M.D.

STEAM
W. H. ALDRICH STEAM SUPT.
B. P. RUETENIK ASST. SUPT.

ASHTABULA PLANT
C. F. NORTH
SUPERINTENDENT

E. 30 ST. PLANT
R. E. COOPER
SUPERINTENDENT

AVON PLANT
F. J. FRIEDEL
SUPERINTENDENT

CANAL RD. PLANT
R. E. COOPER
SUPERINTENDENT

ELECTRICAL
P. S. LEWIS ELECTRICAL SUPT.
A. NICHOLSON ASST. SUPT.

EXECUTIVE ENGINEER
B. C. GREEN

CIVIL AND MECHANICAL
ENGINEERING
C. R. NICHOLS

ELECTRICAL ENGINEERING
H. L. WALLAU
P. BORCH ASST. E.E.

CHEMICAL LABORATORY
J. PRESCOTT
ACTING CHEMIST

EXECUTIVE ENGINEERING
A. A. CASEY M.E.
W. E. MAFFLAND E.E.

RESEARCH AND STATISTICAL
W. W. GODARD
RESEARCH ENGINEER

WIRE RELATIONS
E. R. DAVIS
SUPERVISING ENGINEER

TECHNICAL ADVT.
E. L. LINDSETH M.E.

ASST. GENERAL MANAGER
J. T. REDMOND

VICE PRESIDENT AND
TREASURER
C. W. MILLS

ASSISTANT TREASURER
EMPLOYEES FUND
C. L. MILLS

SUPERINTENDENT
OF COLLECTIONS
W. D. BALLANTINE

CASH RECEIPTS SUMMARIES
H. H. LUKENS
SUPERVISOR

VICE PRESIDENT
IN CHARGE OF SALES
H. C. GILLIE

ELECTRICAL LEAGUE
DOMESTIC SALES
J. F. NORTH DIRECTOR

EMPLOYMENT AND PAYROLL
H. G. ELDER PAYMASTER

PURCHASING
W. H. HARTMAN
PURCHASING AGENT

FUEL PURCHASE
F. C. LOWETH
FUEL AGENT

BUILDING CONSTRUCTION
F. C. LOWETH C.E.

TRAFFIC
J. E. WINDERLICH
SUPERVISOR

ASST. GENERAL MANAGER
E. E. NOBLE

GENERAL SUPERINTENDENT
OF LINES
W. E. RADER

OVERHEAD LINES
P. R. E. LOWETH
SUPERINTENDENT

UNDERGROUND LINES
A. DOUGLAS
SUPERINTENDENT

INSPECTION
B. S. HOWITT
SUPERINTENDENT

SUPERINTENDENT
W. [illegible]

ASSISTANT
R R LUCAS

ASSISTANT SECRETARY
PENSIONS
C L MILLS

GENERAL COUNSEL
F M COBB

CLAIM AGENT
R N HOLCOMB

REAL PROPERTY
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STEAM
W H ALDRICH STEAM SUPT
B P RUETENIK ASST SUPT

ASHTABULA PLANT
C F NORTH
SUPERINTENDENT

E 20 ST PLANT
R E COOPER
SUPERINTENDENT

AVON PLANT
F J FRIEDEL
SUPERINTENDENT

CANAL RD PLANT
R E COOPER
SUPERINTENDENT

LAKE SHORE PLANT
P C FLETCHER
SUPERINTENDENT

PRODUCTION AND TEST
E C CAMPBELL
ENGINEER

ELECTRICAL OPERATION
W A SILSBURY
SYSTEM OPERATOR

W J BUCKINGHAM
GENERAL SUPERVISOR

LOAD DISPATCHING

PLANT OPERATION

SUBSTATION OPERATION

ELECTRICAL MAINTENANCE

ELECTRICAL
F S LEWIS ELECTRICAL SUPT
A NICHOLSON ASST SUPT

ELECTRICAL CONSTRUCTION
W L ARNOLD
GENERAL FOREMAN

MEDICAL SERVICE
G A WEBER M.D.
H B WRIGHT M.D.

ASSISTANT TO
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F J RYAN

ASSISTANT TO
THE PRESIDENT
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VICE PRESIDENT AND
GENERAL MANAGER
H W HOUGH

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B C BEER

CIVIL AND MECHANICAL
ENGINEERING
C R NICHOLS

EXECUTIVE ENGINEERING
A A CASEY M E
W E MAPLAND E E

ELECTRICAL ENGINEERING
H L WALLAU
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RESEARCH AND STATISTICAL
W W GODARD
RESEARCH ENGINEER

CHEMICAL LABORATORY
J PRESCOTT
ACTING CHEMIST

WAGE RELATIONS
B W DAVIS
SUPERVISING ENGINEER

TELEPHONE EXCHANGE
L A TROPAS
CHIEF OPERATOR

GENERAL OFFICE BUILDING
E J BRENNAN
SUPERINTENDENT

STORES
A R P SHAW
SUPERINTENDENT

BUILDING MAINTENANCE
TRANSPORTATION SHOPS
F C LOWETH

ROLLING EQUIPMENT
GARAGES SHOPS
G N SHAWHAN
SUPERINTENDENT

BUILDING MAINTENANCE
EXCEPT GENERAL OFFICES
B G PORTER
SUPERVISOR

TECHNICAL ASST
E L LANDRETH M E

ASST GENERAL MANAGER
J T HERRON

CUSTOMERS SERVICE
C F WHITEMAN
SUPERINTENDENT

CUSTOMERS ROOM
(GENERAL OFFICE)
G R DUGG
SUPERVISOR

INDUSTRIAL INSTALLATIONS
W H PRENDLE
SUPERVISOR

WATER INSTALLATIONS
A H BLINN
SUPERVISOR

STREET LIGHTING
G W GANT
SUPERVISOR

WATER TESTING
A H BRYANT
SUPERVISOR

STEAM HEATING
G P BLISS
SUPERVISOR

ASSISTANT TREASURER
EMPLOYEES FUND
C L MILLS

SUPERVISOR OF COLLECTIONS
R D BALLIET

CASH RECEIPTS SUMMARIES
W N LUERING
SUPERVISOR

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ELECTRICAL HEATING
DOMESTIC SALES
J F HOFFMAN DOM SCI

EMPLOYMENT AND PAYROLL
H G ELDER PAYMASTER

PURCHASING
W H HARTMAN
PURCHASING AGENT

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F C LOWETH
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BUILDING CONSTRUCTION
F C LOWETH C E

TRAFFIC
J E HYNDMAN TRAFFIC
SUPERVISOR

ASST GENERAL MANAGER
E E NOBLE

GENERAL SUPERINTENDENT
OF LINES
W E RADER

OVERHEAD LINES
P R E LEMMON
SUPERINTENDENT

INSPECTION
B E HOWLETT
SUPERINTENDENT

UNDERGROUND
A DOUGLAS
SUPERINTENDENT

RIGHT SUPERINTENDENT
F M CLISE
J F PRIDDY

OFFICE CLERK
E [illegible] HOGAN
SUPERVISOR

Petitioner's Exhibit No. 31

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

FINANCING

SECURITY ISSUES 1892—1940

FUNDED DEBT

TITLE OF ISSUE	Year of Issue or Call	Principal Amount	Issue or *Call* Price to Company
The Cleveland General Electric Company			
6% First Mortgage Bonds, due 1923	1893	$ 310,000	$100
	1894	500,000	80
	1894	70,000	75
	1895	50,000	89
Redeemed at $102	1898	*930,000*	*102*
The Cleveland Electric Illuminating Company			
5% First Mortgage Bonds, due 1927	1898	1,150,000	95
	1898	50,000	101¼
	1901	100,000	106
	1903	45,000	103
	1904	105,000	103
	1906	250,000	97
Redeemed at $110	1909	*1,280,000*	*110*
Redeemed at $110	1910	*420,000*	*110*
First and General Mortgage 6% Bonds, due 1913	1908	1,250,000	94
	1908	250,000	96
Redeemed at Par	1909	*810,000*	*100*
Redeemed at Par	1910	*690,000*	*100*
First Mortgage 5% Gold Bonds, due 1939	1909	2,893,000	99
	1910	200,000	100
	1910	1,007,000	99
	1911	5,500	100
	1911	894,500	98
	1912	1,500,000	98½
	1914	600,000	97
	1914	100,000	97½
	1916	300,000	98¾
	1916	1,000,000	100
	1917	2,000,000	100
	1917	50,000	97½
	1917	25,000	92½
	1917	1,490,000	95
	1917	3,935,000	85½
	1919	2,500,000	91½
Redeemed at $102	1935	*18,500,000*	*102*

Italics denote red figures.

Petitioner's Exhibit No. 31

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

FINANCING

SECURITY ISSUES 1892—1940

(Continued)

TITLE OF ISSUE	Year of Issue or Call	Principal Amount	Issue or *Call* Price to Company
7% First Mortgage Collateral Bonds, due 1935	1920	$ 5,000,000	$ 88.96
Sinking Fund Redemption	1920	*50,000*	*100*
Sinking Fund Redemption	1920	*47,000*	*100*
Sinking Fund Redemption	1921	*11,000*	*105⅛*
Sinking Fund Redemption	1921	*21,000*	*105*
Sinking Fund Redemption	1921	*1,000*	*100⅜*
Sinking Fund Redemption	1922	*15,000*	*105*
Sinking Fund Redemption	1922	*1,000*	*104¾*
Sinking Fund Redemption	1922	*1,000*	*103*
Redeemed at $102	1922	*4,853,000*	*102*
7% Sinking Fund Gold Debenture Bonds, due 1941, callable 1931	1921	5,000,000	89.1945
Redeemed at $105	1931	*5,000,000*	*105*
5% General Mortgage Bonds, Series A, due 1954	1924	11,500,000	97
Redeemed at $105	1935	*11,500,000*	*105*
Series B, due 1961	1926	10,000,000	99½
Redeemed at $107½	1935	*10,000,000*	*107½*
First Mortgage 3¾% Bonds, due 1965	1935	40,000,000	100½
Redeemed at $105	1940	*40,000,000*	*105*
First Mortgage 3% Bonds, due 1970	1940	50,000,000	103½

* * * *

Outstanding on August 1, 1940, First Mortgage 3% Bonds, due 1970		50,000,000

Italics denote red figures.

Petitioner's Exhibit No. 31

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

FINANCING

SECURITY ISSUES 1892—1940

(Continued)

PREFERRED STOCK

TITLE OF ISSUE	Year of Issue or Call	Par or Stated Value	Issue or *Call* Price to Company
6% Preferred Stock, Authorized 1892–97, Par Value $100, non-callable	1893	$ 249,700	$100
	1894	300	100
	1894	130,000	100
	1895	120,000	100
(Subscription rights, 1 for 3⅓)	1898	150,000	95
(Subscription rights, 1 for 4⅓)	1899	142,400	105
	1899	7,600	115
Exchange for Common	1929	*800,000*	*100*
8% Cumulative Preferred Stock,	1920	27,400	97
Par Value $100	1920	3,972,600	92
Redeemed at average price $100.88	1921	*39,400*	*100.88*
Redeemed at $110	1923	*3,960,600*	*110*
6% Preferred Stock, Authorized 1923, Par Value $100	1923–4	10,000,000	97.43
	1924–5	5,281,700	99
Redeemed at $110	1935	*15,281,700*	*110*
Series Preferred Stock, $4.50 Series No Par			
Reorganization and Readjustment	1935	10,217,880	
	1935	15,281,700	100¾
Retirement of .8 shares	1936	*80*	*100*
Retirement of 6 shares	1937	*600*	*100*

* * * *

Outstanding on August 1, 1940, Preferred Stock, $4.50 Series— 254,989 shares $25,498,900

Italics denote red figures.

Petitioner's Exhibit No. 31

THE CLEVELAND ELETCRIC ILLUMINATING COMPANY

FINANCING

SECURITY ISSUES 1892—1940

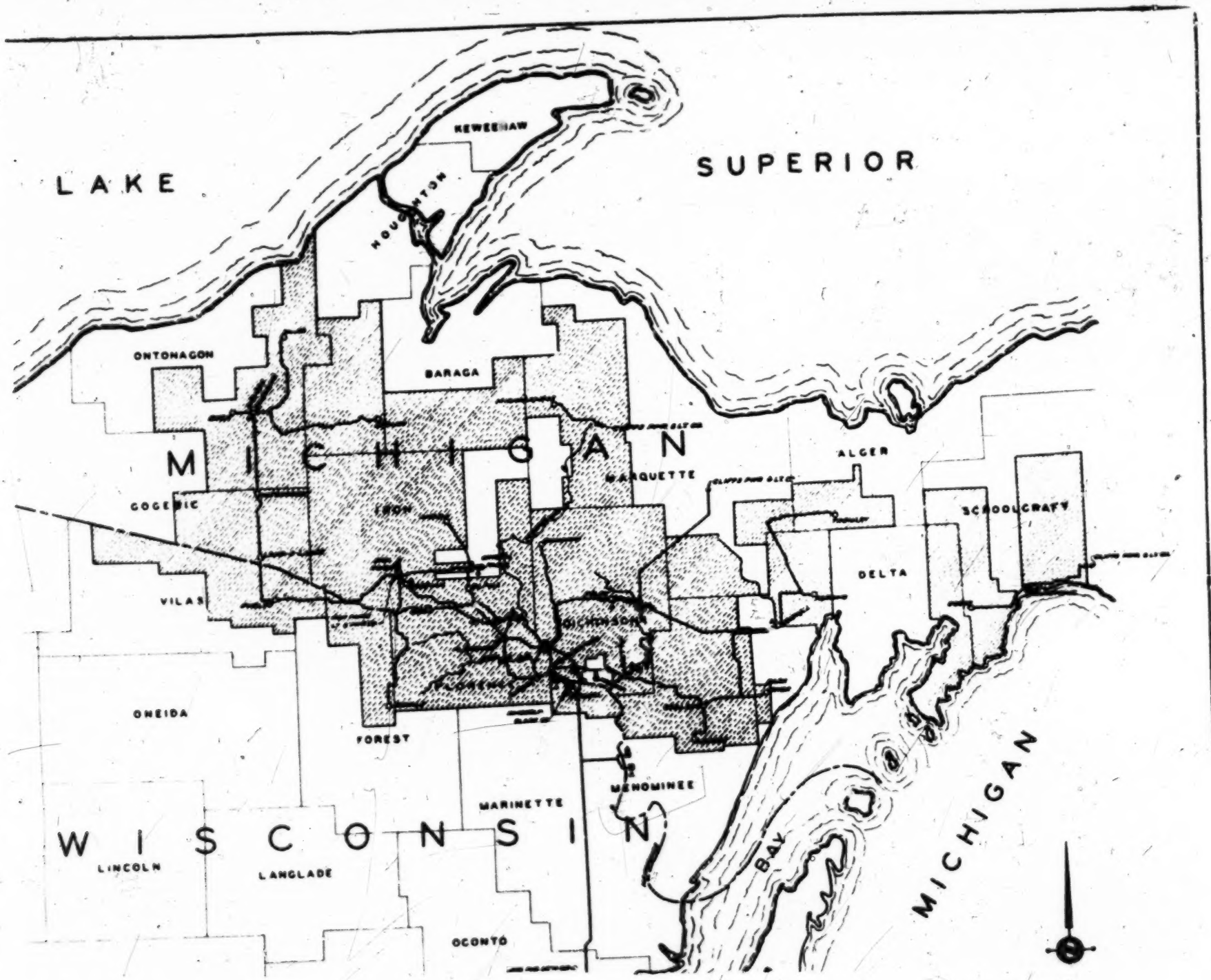
(Continued)

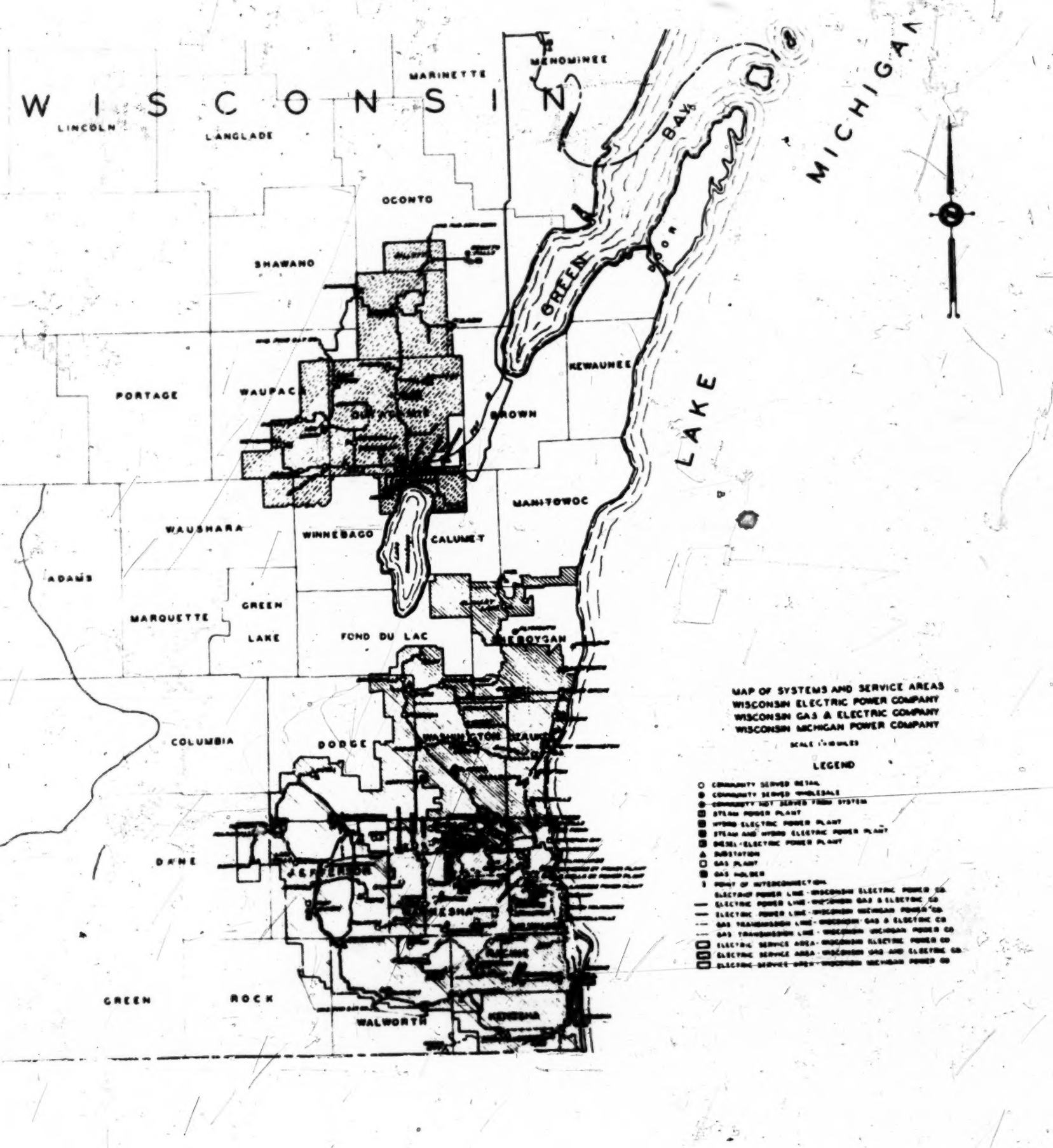
COMMON STOCK

TITLE OF ISSUE	Year of Issue or Call	Par or Stated Value	Issu Pric to Com
Common Stock, Par Value $100	1893	$ 500,000	$100
	1898	150,000	100
(20% Stock Dividend)	1901	129,300	100
(Subscription rights, 1 for 3)	1901	258,000	100
(Subscription rights, 1 for 2)	1902	518,600	100
(10% Stock Dividend)	1903	153,400	100
(Subscription rights, 1 for 6⅔)	1904	262,400	100
(6% Stock Dividend)	1905	116,000	100
(Subscription rights, 1 for 5)	1905	423,800	100
(5% Stock Dividend)	1906	122,900	100
(Subscription rights, 1 for 3⅓)	1906	792,900	100
(Subscription rights, 1 for 10)	1907	412,100	100
(6% Stock Dividend)	1909	222,600	100
(Subscription rights, 1 for 10)	1909	498,400	100
(7% Stock Dividend)	1910	306,600	100
(Subscription rights, 1 for 6⅔)	1910	864,600	100
(Subscription rights, 1 for 5)	1911	1,307,800	100
	1911	300,000	100
(Subscription rights, 1 for 55/9)	1913	1,463,800	100
(Subscription rights, 1 for 10)	1914	960,300	100
(Subscription rights, 1 for 2)	1922	5,254,300	100
	1922	27,500	110
Common Stock, Par Value $100 (Subscription rights, 1 for 10)	1924	1,580,700	150
	1925	3,800	150
	1928	*16,629,800*	
Common Shares, without Par Value	1928	16,629,800	
Transfer from Surplus	1928	16,629,800	
Exchange	1929	800,000	
(Subscription rights, 1 for 2)	1930	17,029,800	20
Common Shares, without Par Value Reorganization and Readjustment	1935	*51,089,400*	
Common Stock, without Par Value Reorganization and Readjustment	1935	40,871,520	
Retirement of .7 shares	1936		
Retirement of 3 shares	1937		

* * * *

Outstanding on August 1, 1940,
Common Stock—2,324,564


LAKE
SUPERIOR
KEWEENAW
HOUGHTON
ONTONAGON
BARAGA
MICHIGAN
MARQUETTE
ALGER
GOGEBIC
IRON
SCHOOLCRAFT
DELTA
VILAS
ONEIDA
FOREST
MENOMINEE
MARINETTE
WISCONSIN
LINCOLN
LANGLADE
OCONTO
BAY
MICHIGAN


WISCONSIN
MICHIGAN
LAKE
MARINETTE
MENOMINEE
LINCOLN
LANGLADE
OCONTO
SHAWANO
PORTAGE
WAUPACA
OUTAGAMIE
BROWN
KEWAUNEE
MANITOWOC
WAUSHARA
WINNEBAGO
CALUMET
ADAMS
MARQUETTE
GREEN LAKE
FOND DU LAC
SHEBOYGAN
COLUMBIA
DODGE
WASHINGTON
DANE
JEFFERSON
GREEN
ROCK
WALWORTH
KENOSHA
MAP OF SYSTEMS AND SERVICE AREAS
WISCONSIN ELECTRIC POWER COMPANY
WISCONSIN GAS & ELECTRIC COMPANY
WISCONSIN MICHIGAN POWER COMPANY
LEGEND

Petitioner's Exhibit No. 41

WISCONSIN ELECTRIC POWER COMPANY
ORGANIZATION CHART

- Stockholders
  - Board of Directors
    - Executive Committee
      - S. B. Way, President
        - G. W. Van Derzee, Vice President and General Manager
          - G. G. Post, Vice President in Charge of Power
            - Electric Distribution*
            - Power Plant*
            - Plant Engineering*
          - F. A. Coffin, Vice President and Sales Manager
            - Sales*
            - Advertising*
          - L. F. Seybold, Vice President and Research Engineer
            - Operating Research Bureau*
            - Purchasing & Stores*
            - Printing*
          - F. J. Boehm, Secretary & Treasurer
            - Accounting*—A. J. Bohl, Controller, Asst. Sec. & Asst. Treas.
              - Asst. Secretary and Asst. Treasurer*—L. M. La Porte
            - Asst. Secretary and Asst. Treasurer—J. G. Johansen
          - J. H. Lucas, Asst. Vice President
          - E. J. Steinberg, Executive Assistant
          - A. J. Whitcomb, Attorney
          - E. W. Miller, Chief Surgeon
          - V. E. Huntzicker, Real Estate Agent
        - Shaw, Muskat & Paulsen, Counsel for Company

* See subsequent sections for further detail.

Petitioner's Exhibit No. 41

WISCONSIN ELECTRIC POWER COMPANY

ORGANIZATION CHART

(Continued)

G. G. Post, Vice President in Charge of Power

- C. F. Jolin, Technical Assistant

Electric Distribution Department

W. E. Gundlach, Chief Electrical Engineer

- Construction Division, F. E. Wilterding, Superintendent of Construction
  - Construction, Maintenance & Installation
- Operating Division, O. M. Ward, Superintendent of Operation
  - Load Dispatchers, Station Operation, Trouble Service & Local Agents
- Engineering Division, C. D. Brown, Electrical Engineer
- Electrical Testing Division, J. E. Miller, General Foreman
- General Office Division, W. S. Wilder, Technical Assistant

Power Plant Department

Fred Dornbrook, Chief Engineer of Power Plants

- Asst. Chief Engineers, G. J. Lawrenz and M. K. Drewry
  - Operation
    - Lakeside Power Plant, George Hummel, Engineer-in-Charge
    - Fort Washington Power Plant, Harry Shaver, Engineer-in-Charge
    - Commerce Street Power Plant, Frank Leach, Engineer-in-Charge
    - East Wells Street Power Plant, Thomas Franks, Engineer-in-Charge
    - Stephenson Building Power Plant, Edward Hass, Engineer-in-Charge
    - Racine Power Plant, H. H. Leuschke, Engineer-in-Charge
    - Equipment Testing, Maurice Fitze, Test Engineer
    - Chemical and Physical Laboratory, W. O. Pflaum, Chief Chemist
  - Maintenance
    - Master Mechanic, Henry Dornbrook
  - Construction and Design
    - Chief Designer, H. H. MacMillen
  - Heating Division
    - Superintendent, Henry Warhanek

Plant Engineering Department

F. A. Luber, Chief Architectural Engineer

- Drafting and Engineering, H. E. Mundt, Structural Designer
- Specifications, F. C. Schroeder, Building Engineer
- Building Maintenance, E. A. Bolzendahl, Building Superintendent
- Heating, Ventilating and Air Conditioning, E. W. May, Mechanical Engineer

Petitioner's Exhibit No. 41

WISCONSIN ELECTRIC POWER COMPANY
ORGANIZATION CHART
(Continued)

F. A. Coffin, Vice President and Sales Manager

- Sales Department
  - Appliance Service, C. M. Berry, Superintendent of Appliance Service
  - General Office, J. Mackowski, Assistant to Sales Manager
  - Home Service Bureau, Mrs. V. Ellwood, Director
  - Lighting and Rural Sales, I. L. Illing, Illuminating Engineer
  - Merchandise Stores, Elmer Stocker, Superintendent of Merchandise Sales
  - Power Sales, O. O. Wagley, Superintendent of Power Sales
  - Range Sales, N. Christopherson, Superintendent of Range Sales
  - Water Heater Sales, M. Zass, Superintendent of Water Heater Sales
- Advertising Department
  F. E. Eriksen, Advertising Manager

L. F. Seybold, Vice President and Research Engineer

- Operating Research Bureau
  - Asst. Research Engineer, John Dockendorf
    - Transportation Engineering Division, C. F. Balch, Supervisor
    - Internal Auditing Division, R. J. Mathews, Supervisor
    - Statistical Division, R. W. Schmelz, Supervisor
    - Special Investigations Division, E. H. Schmidtman, Supervisor
  - Asst. Research Engineer, F. L. Larkin
    - Wage Incentives, Standards, Methods and Job Analysis Division, H. P. Chamberlin, Supervisor
    - Bonus Calculation Division, E. W. Gottschalk, Supervisor
    - Employe Selection and Training Division, A. H. Nielsen, Education Director
    - Employment Office, W. Pohland, Employment Agent
  - Asst. Research Engineer, A. Gruhl
    - Tax Division, C. J. Trudeau, Supervisor

Petitioner's Exhibit No. 41

WISCONSIN ELECTRIC POWER COMPANY
ORGANIZATION CHART –
(Continued)

L. F. Seybold, Vice President and Research Engineer (Continued)

- Purchasing and Stores Department
  F. V. Benz, Purchasing Agent
  - Asst. Purchasing Agent, A. A. Meisenheimer
    - Purchasing, Stores and Stock Records, & Public Service Building Operation
- Printing Department
  B. F. Dahlman, Superintendent

F. J. Boehm, Secretary and Treasurer

- Accounting Department
  A. J. Bohl, Controller, Assistant Secretary & Assistant Treasurer
  - L. M. LaPorte, Assistant Secretary and Assistant Treasurer
    - Customers, Accounting Division, A. G. Neumann, Auditor of Customers Accounts
    - Report and Development Division, T. W. Gehle, Supervisor
    - Mechanical Accounting Division, H. J. Fillhouer, Supervisor
    - Pay roll and Timekeeping Division, J. A. Wolfrum, Paymaster
    - Cashiers Division, J. W. Mielke, Cashier
  - General Accounting Division, W. A. Gauger, General Auditor
  - Accounts Payable Division, S. R. Hatch, Auditor of Disbursements
  - Property & Plant Division, R. L. Stiles, Supervisor
  - Legal Division, R. J. Schimmel, Attorney
  - Securities Division, W. J. Muth, Supervisor

3390

Petitioner's Exhibit No. 42

ORGANIZATION CHART

WISCONSIN GAS & ELECTRIC CO.

July 2, 1940

STOCKHOLDERS

BOARD OF DIRECTORS

PRESIDENT—S. B. WAY

VICE PRESIDENT—G. W. VAN DERZEE

VICE PRESIDENT—L. F. SEYBOLD

VICE PRESIDENT & GENERAL MANAGER—S. B. SHERMAN

VICE PRESIDENT—D. G. EVANS

- Rate Analysis and Development
- Service Rules and Regulations
- Special Investigations

EXECUTIVE ASSISTANT—G. N. BINGEN

MGR. RACINE DIV.—R. I. SWIFT

MGR. KENOSHA DIV.—H. M. PAULEY

MGR. WESTERN DIV.—W. D. LEONARD

MGR. NORTHERN DIV.—W. E. KEUHLTHAU

- W. G. & E. Co. ELECTRIC & GAS
- W. E. P. Co. ELECTRIC
- Operation-Maintenance & Construction
- Customer Billing
- Customer Service
- Collections
- Merchandising

ELECTRIC-GAS-HEATING

- Operation-Maintenance & Construction
- Customer Billing
- Customer Service
- Collections
- Merchandising

CHIEF ACCOUNTANT—G. F. BETTS

- Corporation Accounting
- Pay Roll
- Bonus Calculation
- Storeroom Records
- Audits
- Procedures
- Reports
- Taxes

CHIEF ENGINEER—J. A. TYVAND

PLANT SUPT.—H. R. BROKER

- Gas Plant Operation & Maintenance

ASST. SEC.—W. L. HAIGHT

PROMOTIONAL SUPERV.—J. H. DUNHAM

- New Business
- Merchandising
- Advertising

RESIDUAL SALES—

SEC. & TREAS.—F. J. BOEHM

ASST. SEC. & ASST. TREAS.—A. J. BOHL

ASST. SEC. & ASST. TREAS.—L. M. LAPORTE

ASST. SEC. & ASST. TREAS.—J. G. JOHANSEN

ASST. SEC. & ASST. TREAS.—J. I. ALLEN

- Corporate Records
- Collections
- Budgets and Forecasts
- Cash Receipts and Disbursements
- Securities and Notes
- Insurance
- Corporate Releases
- Release of Procedures

Purchasing and Stores
Gain Sharing Plans
Office Service and Filing
Job Evaluation

tion

ELECTRIC–GAS–TRANSPORTATION

Operation-Maintenance & Construction
Customer Billing
Customer Service
Collections
Merchandising

tion

ELECTRIC

Operation-Maintenance & Construction
Customer Billing
Customer Service
Collections
Merchandising

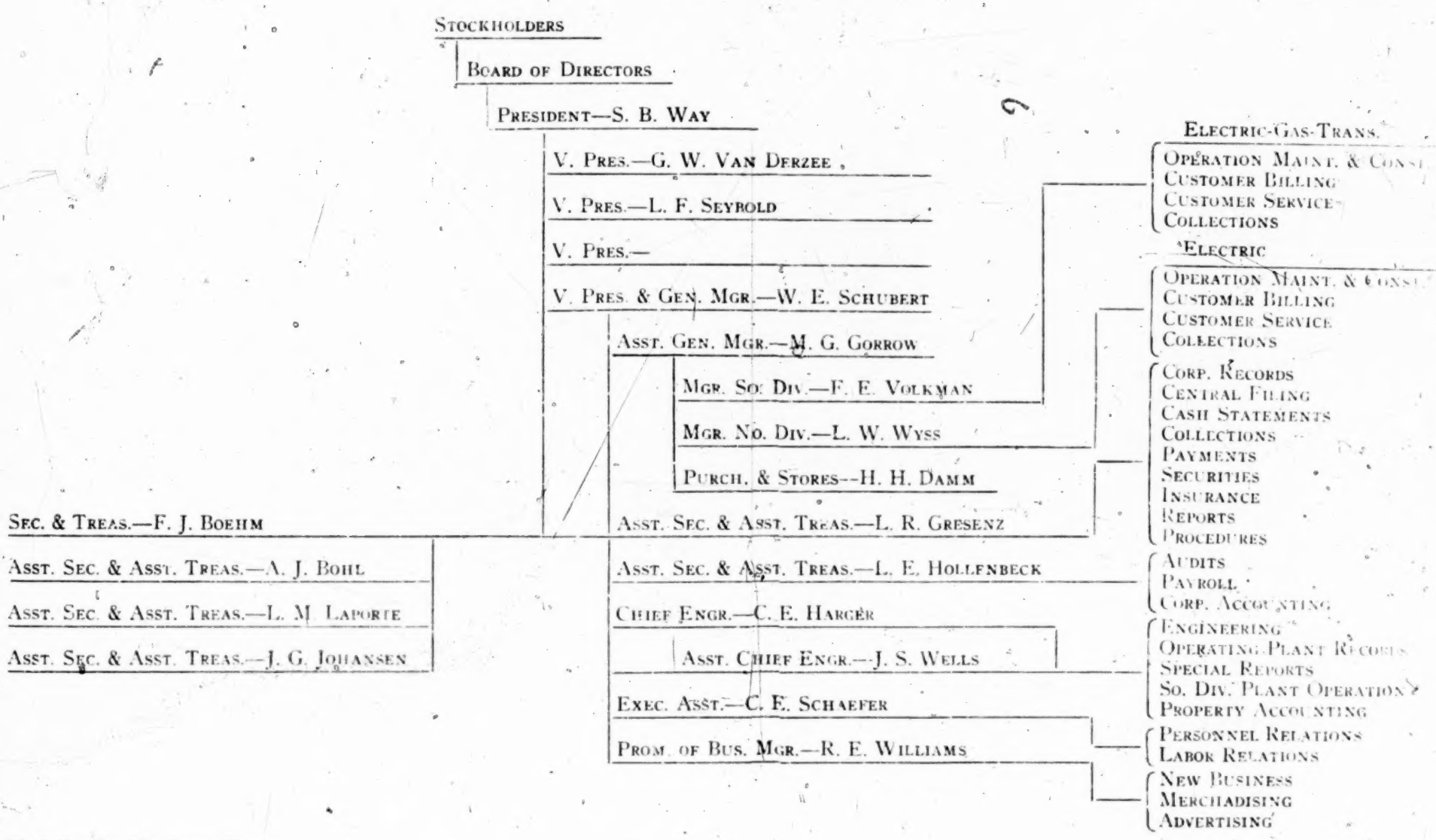
Engineering
Operating Records
Property Accounting
Special Reports

Personnel Relations
Labor Relations
Safety
Right of Way

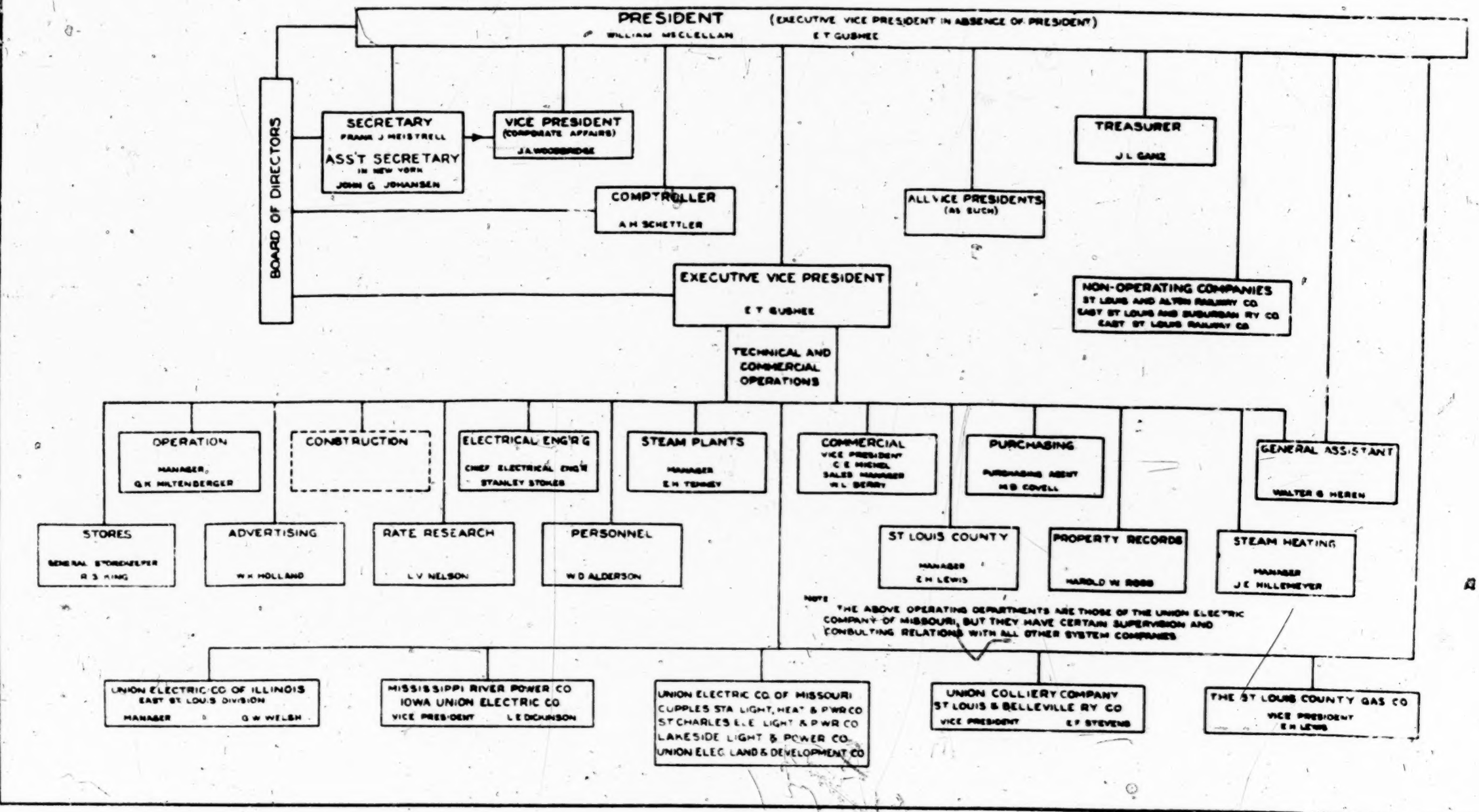
(Sale of Gas Residuals

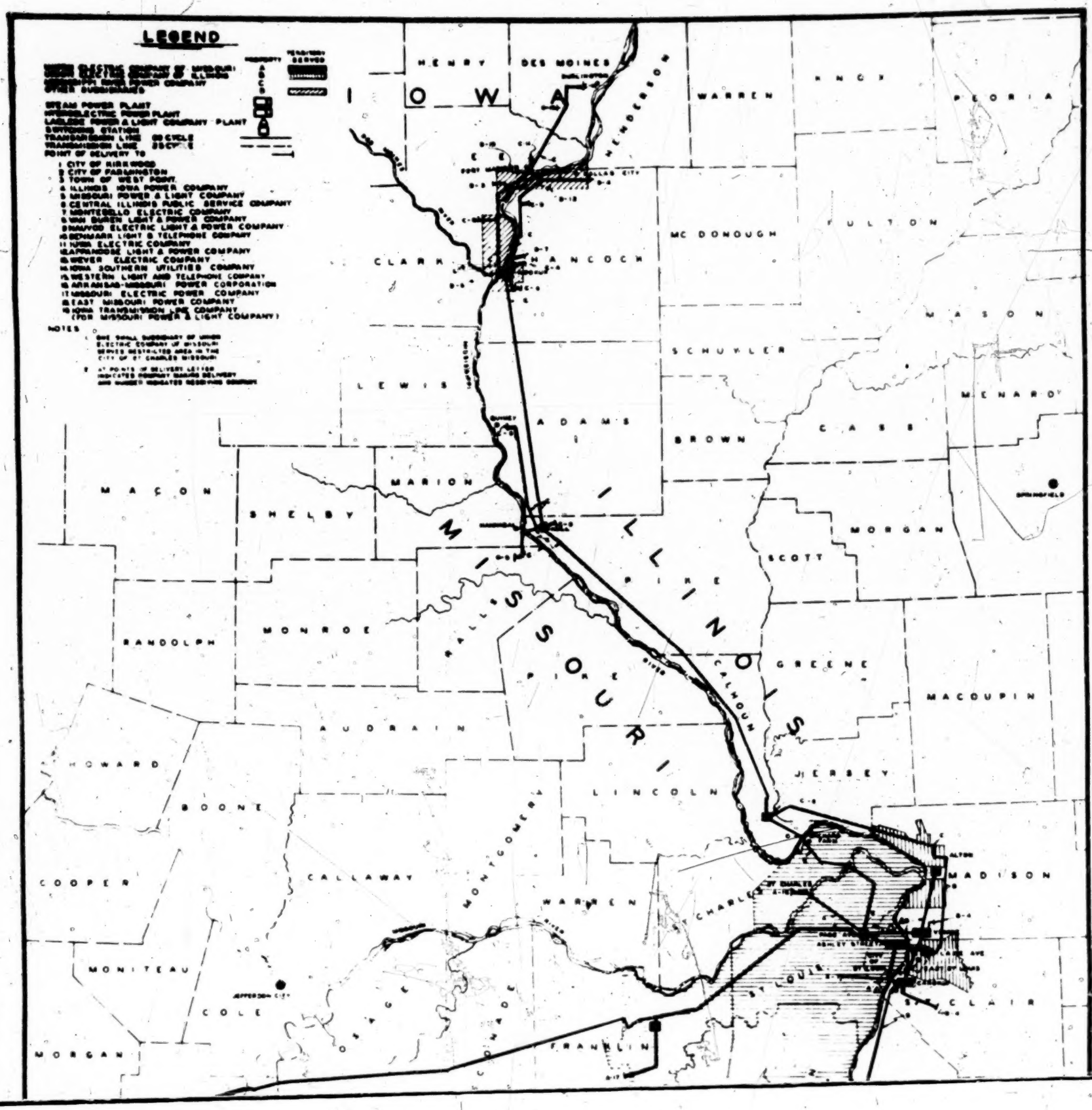
Petitioner's Exhibit No. 43

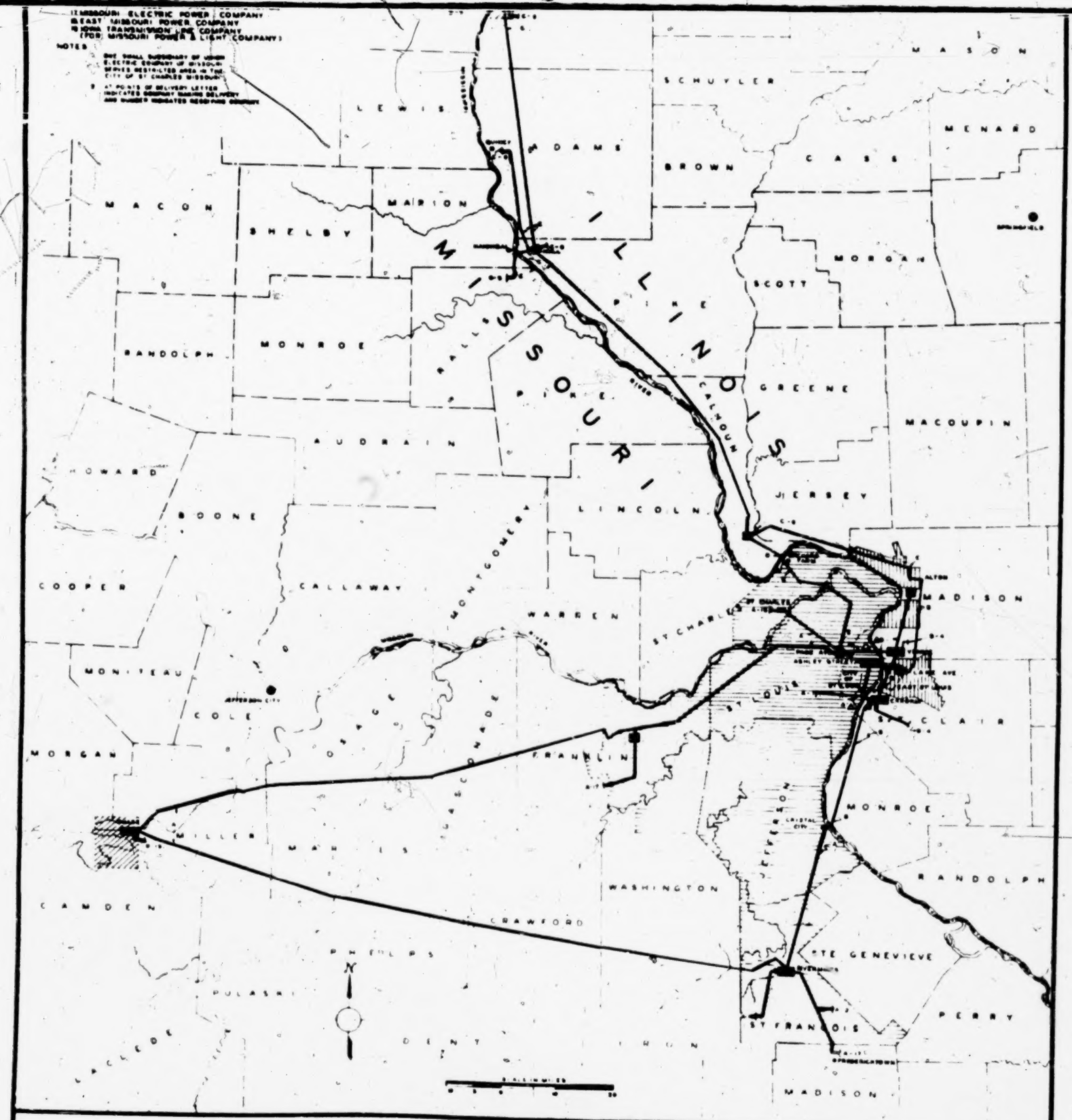
ORGANIZATION CHART
WISCONSIN MICHIGAN POWER CO.
July 1, 1940



*Including No. Div. Power Plants.


PRESIDENT
WILLIAM McCLELLAN
(EXECUTIVE VICE PRESIDENT IN ABSENCE OF PRESIDENT)
E T GUSHEE
BOARD OF DIRECTORS
SECRETARY
FRANK J MEISTRELL
ASS'T SECRETARY
IN NEW YORK
JOHN G JOHANSEN
VICE PRESIDENT
(CORPORATE AFFAIRS)
J A WOODBRIDGE
COMPTROLLER
A H SCHETTLER
TREASURER
J L GANZ
ALL VICE PRESIDENTS
(AS SUCH)
EXECUTIVE VICE PRESIDENT
E T GUSHEE
NON-OPERATING COMPANIES
ST LOUIS AND ALTON RAILWAY CO
EAST ST LOUIS AND SUBURBAN RY CO
EAST ST LOUIS RAILWAY CO
TECHNICAL AND COMMERCIAL OPERATIONS
OPERATION
MANAGER
O K HILTENBERGER
CONSTRUCTION
ELECTRICAL ENG'R G
CHIEF ELECTRICAL ENG'R
STANLEY STOKES
STEAM PLANTS
MANAGER
E H TENNEY
COMMERCIAL
VICE PRESIDENT
C E MICHEL
SALES MANAGER
W L BERRY
PURCHASING
PURCHASING AGENT
H B COVELL
GENERAL ASSISTANT
WALTER G HEREN
STORES
GENERAL STOREKEEPER
R S KING
ADVERTISING
W K HOLLAND
RATE RESEARCH
L V NELSON
PERSONNEL
W D ALDERSON
ST LOUIS COUNTY
MANAGER
E H LEWIS
PROPERTY RECORDS
HAROLD W ROSS
STEAM HEATING
MANAGER
J E HILLEMEYER
NOTE
THE ABOVE OPERATING DEPARTMENTS ARE THOSE OF THE UNION ELECTRIC COMPANY OF MISSOURI, BUT THEY HAVE CERTAIN SUPERVISION AND CONSULTING RELATIONS WITH ALL OTHER SYSTEM COMPANIES
UNION ELECTRIC CO OF ILLINOIS
EAST ST LOUIS DIVISION
MANAGER
O W WELSH
MISSISSIPPI RIVER POWER CO
IOWA UNION ELECTRIC CO
VICE PRESIDENT
L E DICKINSON
UNION ELECTRIC CO OF MISSOURI
CUPPLES STA LIGHT, HEAT & PWR CO
ST CHARLES E L E LIGHT & PWR CO
LAKESIDE LIGHT & POWER CO
UNION ELEC LAND & DEVELOPMENT CO
UNION COLLIERY COMPANY
ST LOUIS & BELLEVILLE RY CO
VICE PRESIDENT
E F STEVENS
THE ST LOUIS COUNTY GAS CO
VICE PRESIDENT
E H LEWIS


LEGEND
STEAM POWER PLANT
HYDROELECTRIC POWER PLANT
LABADIE POWER & LIGHT COMPANY PLANT
SWITCHING STATION
TRANSMISSION LINE 69 KV CIRCUIT
TRANSMISSION LINE 345 KV CIRCUIT
POINT OF DELIVERY TO
1 CITY OF FARMINGTON
2 TOWN OF WEST POINT
3 ILLINOIS IOWA POWER COMPANY
4 MISSOURI POWER & LIGHT COMPANY
5 CENTRAL ILLINOIS PUBLIC SERVICE COMPANY
6 MONTICELLO ELECTRIC COMPANY
7 VAN BUREN LIGHT & POWER COMPANY
8 SHALLWOOD ELECTRIC LIGHT & POWER COMPANY
9 DENMARK LIGHT & TELEPHONE COMPANY
10 IOWA ELECTRIC COMPANY
11 FARMDALE LIGHT & POWER COMPANY
12 WEVER ELECTRIC COMPANY
13 IOWA SOUTHERN UTILITIES COMPANY
14 WESTERN LIGHT AND TELEPHONE COMPANY
15 ARKANSAS-MISSOURI POWER CORPORATION
16 MISSOURI ELECTRIC POWER COMPANY
17 EAST MISSOURI POWER COMPANY
18 IOWA TRANSMISSION LINE COMPANY (FOR MISSOURI POWER & LIGHT COMPANY)
NOTES
IOWA
ILLINOIS
MISSOURI
HENRY
DES MOINES
WARREN
KNOX
PEORIA
HENDERSON
MC DONOUGH
FULTON
CLARK
HANCOCK
MASON
SCHUYLER
LEWIS
ADAMS
BROWN
CASS
MENARD
MACON
MARION
SHELBY
MORGAN
SCOTT
PIKE
RANDOLPH
MONROE
CALHOUN
GREENE
MACOUPIN
AUDRAIN
HOWARD
BOONE
LINCOLN
JERSEY
MADISON
COOPER
CALLAWAY
MONTGOMERY
WARREN
CHARLES
MONITEAU
COLE
JEFFERSON CITY
OSAGE
FRANKLIN
MORGAN
ST. CLAIR



SYSTEM MAP
UNION ELECTRIC COMPANY OF MISSOURI AND SUBSIDIARIES

Petitioner's Exhibit No. 125

THE NORTH AMERICAN COMPANY

CAPITALIZATION FROM ORGANIZATION TO DECEMBER 31, 1940

Date	Common Stock	6% Preferred Stock	5¾% Preferred Stock	Collateral Promissory Notes	Collateral Trust Gold Notes	Debentures	Paid-in Surplus	Earned Surplus	Total	Ratio of Common Stock & Surplus to Total Capitalization
August 13, 1890	$ 40,000,000.00								$40,000,000.00	100
May 31, 1891	40,000,000.00							$—437,448.75	39,562,551.25	100
May 31, 1892	40,000,000.00							—474,779.13	39,525,220.87	100
May 31, 1893	40,000,000.00							—374,442.36	39,625,557.64	100
May 31, 1894	40,000,000.00							—453,425.56	39,546,574.44	100
May 31, 1895	40,000,000.00			2,200,009.00				—37,205,223.53	4,994,776.47	56
May 31, 1896	40,000,000.00			1,200,000.00				—36,545,166.51	4,654,833.49	74
May 31, 1897	40,000,000.00							—36,520,332.47	3,479,667.53	100
May 31, 1898	39,757,200.00							—36,265,649.77	3,491,550.23	100
May 31, 1899	39,789,200.00							—36,158,657.08	3,630,542.92	100
May 31, 1900	39,789,200.00							—36,008,907.38	3,780,292.62	100
February 1, 1901 (Date of Reclassification)	11,936,700.00								11,936,700.00	100
May 31, 1901	11,936,700.00							80,283.70	12,016,983.70	100
May 31, 1902	12,000,000.00							1,129,986.19	13,129,986.19	100
May 31, 1903	16,800,000.00							1,330,139.94	18,130,139.94	100
May 31, 1904	16,800,000.00							1,739,353.15	18,539,353.15	100
December 31, 1904	17,000,000.00							1,991,744.21	18,991,744.21	100
December 31, 1905	29,635,500.00							2,812,232.03	32,447,732.03	100
December 31, 1906	29,791,300.00							3,999,548.02	33,790,848.02	100
December 31, 1907	29,793,300.00				2,500,000.00			1,996,613.92	34,289,913.92	93
December 31, 1908	29,793,300.00				2,500,000.00			3,445,776.72	35,739,076.72	93
December 31, 1909	29,793,300.00				2,416,000.00			3,662,987.70	35,872,287.70	93
December 31, 1910	29,793,300.00				1,921,000.00			4,026,707.73	35,741,007.73	95
December 31, 1911	29,793,300.00				1,910,000.00			4,393,908.62	36,097,208.62	95
December 31, 1912	29,793,300.00							5,035,470.69	34,828,770.69	100
December 31, 1913	29,793,300.00							5,633,367.93	35,426,667.93	100
December 31, 1914	29,793,300.00							2,052,475.09	31,845,775.09	100
December 31, 1915	29,793,300.00							2,367,586.60	32,160,886.60	100
December 31, 1916	29,793,300.00							3,039,839.58	32,833,139.58	100
December 31, 1917	29,793,000.00							3,353,742.23	33,147,042.23	100
December 31, 1918	29,793,300.00							3,468,151.36	33,261,451.36	100
December 31, 1919	29,793,300.00							4,524,453.43	34,317,753.43	100
December 31, 1920	29,793,360.00							5,723,745.13	35,517,045.13	100
December 31, 1921	15,033,200.00	14,896,650.00						6,821,882.54	36,751,732.54	59
December 31, 1922	21,085,806.00	18,963,201.50						7,618,954.31	47,667,955.81	60
December 31, 1923	26,489,075.50	19,085,701.50						5,955,530.18	51,530,397.18	63
December 31, 1925	29,236,510.00	29,085,750.00						7,488,608.80	65,810,868.80	56
December 31, 1922	37,015,179.15	30,335,750.00					23,741,645.84	9,718,686.80	100,811,261.80	70
December 31, 1926	40,913,220.00	30,335,750.00					23,821,632.84	12,175,885.18	107,246,488.02	72
December 31, 1927	45,148,630.00	30,335,750.00					23,821,632.84	15,735,625.24	115,041,638.08	74
December 31, 1928	50,119,600.00	30,333,900.00					25,789,984.57	25,195,334.81	131,438,819.38	77
December 31, 1929	56,038,390.00	30,333,900.00					31,084,077.34	35,887,638.65	153,344,005.99	80
December 31, 1930	61,853,840.00	30,333,900.00					31,192,657.34	45,582,512.41	168,962,909.75	82
December 31, 1931	68,254,170.00	30,333,900.00				25,000,000.00	32,771,453.59	41,555,520.23	197,915,043.82	72
December 31, 1932	75,309,740.00	30,333,900.00				25,000,000.00		39,132,176.55	169,775,816.55	67
December 31, 1933	81,884,510.00	30,333,900.00				25,000,000.00		40,323,130.09	177,541,540.09	69
December 31, 1934	86,029,910.00	30,333,900.00				25,000,000.00		40,669,213.47	182,033,023.47	70
December 31, 1935	85,753,350.00	30,317,950.00				24,079,399.89		42,099,803.09	182,250,502.98	70
December 31, 1936	85,750,420.00	30,317,950.00				23,913,000.00		44,312,452.81	184,393,822.81	71
December 31, 1937	85,746,770.00	30,317,950.00				23,913,000.00		37,657,414.97	177,635,134.97	69
December 31, 1938	85,741,360.00	30,317,950.00				23,913,000.00		41,604,980.75	181,577,290.75	70
December 31, 1939	85,734,670.00	30,317,950.00	34,829,000.00			70,000,000.00	312,503.00	41,955,033.00	263,149,156.00	49
December 31, 1940	85,726,260.00	30,317,950.00	34,819,000.00			70,000,000.00	312,994.00	44,132,991.00	265,309,195.00	49

Petitioner's Exhibit No. 125

THE NORTH AMERICAN COMPANY
THE WISCONSIN EDISON COMPANY, INC.
NORTH AMERICAN EDISON COMPANY

Schedule showing for each of the years from 1915 to 1935, inclusive, the largest debit balance of combined loan and accounts of operating subsidiaries, which had debit balances for the greater number of months during the ye

	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
The Electric Company of Missouri	$456,000	$703,000												
Milwaukee Light, Heat & Traction Company										$ 215,000	$ 229,000	$ 383,000	$ 385,000	
The St. Louis County Gas Company	196,000	58,000	$ 127,000	$ 159,000	$194,000	$ 144,000	$ 76,000							
Union Electric Company of Missouri (formerly Union Electric Light and Power Company)		407,000	1,000,000	1,140,000	830,000	2,019,000	469,000							
Union Electric Company of Illinois (formerly Union Electric Light and Power Company of Illinois)									$11,754,000	12,232,000				
Wisconsin Electric Power Company (formerly the Milwaukee Electric Railway and Light Company)	774,000		3,484,000	4,469,000	432,000	6,145,000	8,123,000	$2,892,000	1,532,000	2,363,000	3,179,000	3,891,000	3,948,000	$1,250,
Wisconsin Electric Power Company (former company; merged into The Milwaukee Electric Railway and Light Company in 1938)							260,000	637,000	2,675,000	2,689,000		357,000	457,000	479,
Wisconsin Michigan Power Company												2,827,000	4,536,000	2,221,
Wisconsin Traction, Light, Heat & Power Company (merged into Wisconsin Michigan Power Company in 1927)											460,000	721,000		
Wisconsin Gas & Electric Company	371,000	170,000	199,000	805,000	601,000	598,000			223,000					

THE NORTH AMERICAN COMPANY
THE WISCONSIN EDISON COMPANY, INC.
NORTH AMERICAN EDISON COMPANY

ars from 1915 to 1935, inclusive, the largest debit balance of combined loan and advance
aries, which had debit balances for the greater number of months during the year

1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935
					$ 215,000	$ 229,000	$ 383,000	$ 385,000				
								$6,855,000	$10,564,000	$13,152,000	$17180,000	$4,342,000	$3,354,000
$11,754,000	12,232,000											
1,532,000	2,363,000	3,179,000	3,891,000	3,948,000	$1 250 000						250,000	647,000	$186,000
2,675,000	2,689,000		357,000	457,000	479,000								
			2,827,000	4,536,000	2,221,000								
		460,000	721,000										
223,000													

IN THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE SECOND CIRCUIT

THE NORTH AMERICAN COMPANY, Petitioner,

v.

SECURITIES AND EXCHANGE COMMISSION, Respondent

Subject to the approval of the Court, it is hereby stipulated by and between the parties herein as follows:

1. The petition to review the order of the Securities and Exchange Commission, dated April 14, 1942, filed in this Court on June 12, 1942, and the petition to review the order of the Securities and Exchange Commission, dated June 25, 1942, filed in this Court on August 21, 1942, shall be consolidated and treated as one case, and shall be briefed together and argued together upon the record heretofore certified by the Securities and Exchange Commission. The schedule with respect to the filing of briefs, oral argument and all other matters shall be that provided by the rules of Court with respect to the petition filed on June 12, 1942, except as modified by stipulation between the parties.

2. The time within which the brief of the respondent shall be filed and served shall be extended to thirty days after the service upon the respondent of a copy of petitioner's brief.

3. Upon the service of respondent's brief upon petitioner, the case shall be set for argument by stipulation of the parties on the first available date to be indicated by the Clerk, provided that such date shall not be earlier than fifteen days

after service of respondent's brief. Petitioner may file and serve a reply brief at least one day before oral argument.

4. There may be omitted from the printed record the testimony relative to Washington Railway and Electric Company and its subsidiaries, to North American Light & Power Company and its subsidiaries, and pages 2155 to 2168, inclusive, of the typewritten transcript of testimony before the Securities and Exchange Commission; and there may also be omitted from the printed record the following documents (the document number in each case being that assigned in the record certified to this Court by the Commission):

Documents Nos. 2, 3, 5, 6, 8, to 13, inclusive, 14 (other than the answer of The North American Company), 15, 22 to 34, inclusive, 42, 48, 54, 60, 66, 126, 130 to 146, inclusive, 148, 149, 154, 155, 158, 159, 160, 162, 169 to 172, inclusive, 174 to 176, inclusive, 178 to 183, inclusive, 186, 188, 191, 193 to 254, inclusive, 256, 260, 262 to 271, inclusive, 273, 274, 275, 276 (except as to certain persons), 277, 278, 280 to 291, inclusive, 292, (other than proposed findings), 293 to 306, inclusive, 308 to 330, inclusive, and 333 to 336, inclusive.

5. If the pending motion by the Commission in the United States Court of Appeals for the District of Columbia to dismiss the petition for review filed in said Court by Washington Railway and Electric Company and The Washington and Rockville Railway Company of Montgomery County shall be granted, the petitioner shall print such additional portions of the record certified by the Commission with respect to said companies and their respective subsidiaries, as shall then be agreed upon by further stipulation.

6. If after the opening briefs of petitioner and respondent have been filed, it appears to either party that any part of the record material to the issues framed by the briefs has been omitted from the printed record, a supplemental

volume of record shall be printed by the petitioner.

Dated, New York, October 2, 1942.

Sullivan & Cromwell, Counsel for Petitioner. John F. Davis, Solicitor. Milton V. Freeman, Assistant Solicitor, Counsel for Respondent.

So Ordered. October 6th, 1942. Thomas W. Swan, C. J.

United States Circuit Court of Appeals for the Second Circuit. The North American Company, Petitioner, v. Securities and Exchange Commission, Respondent. Consent and Order. Sullivan & Cromwell, Attorneys for Petitioner, 48 Wall Street, New York, N. Y. United States Circuit Court of Appeals, Second Circuit. Filed Oct. 6, 1942. D. E. Roberts, Clerk.

UNITED STATES CIRCUIT COURT OF APPEALS

FOR THE SECOND CIRCUIT

No. 105—October Term, 1942.

(Argued November 10, 1942 Decided January 12, 1943.)

THE NORTH AMERICAN COMPANY,

Petitioner,

—*v.*—

SECURITIES AND EXCHANGE COMMISSION,

Respondent.

Petitions to review two orders of the Securities and Exchange Commission entered in a proceeding initiated by the Commission under section 11 (b) (1) of the Public Utility Holding Company Act of 1935. 15 U. S. C. A. §79k(b) (1). By order of this court, upon stipulation, the petitions were consolidated. Orders affirmed.

Before:

SWAN, AUGUSTUS N. HAND and CHASE,

Circuit Judges.

SULLIVAN & CROMWELL, Attorneys for petitioner, Charles E. Hughes, Jr., of counsel.

JOHN F. DAVIS, Solicitor, Milton V. Freeman, Ass't Solicitor, Roger S. Foster, Counsel, Public Utilities Division, David K. Kadane, Maurice C. Kaplan and Jerome S. Katzin, Attorneys, for the respondent.

SWAN, *Circuit Judge:*

This case is before us on petitions of The North American Company, filed pursuant to section 24(a) of the Public Utility Holding Company Act of 1935, 15 U. S. C. A. §79x(a), to review two orders made by the Securities and Exchange Commission in a proceeding initiated by it under section 11 (b) (1) of the Act, 15 U. S. C. A. §79k(b) (1). The orders were entered on April 14, 1942 and June 25, 1942, respectively. The opinions of the Commission in support of them will be reported in The North American Company, 11 S. E. C. —— and ——.[1] The April order directed North American to divest itself of all its securities, with minor exceptions, other than those of Union Electric Company of Missouri and its subsidiaries (hereafter referred to as the St. Louis system). The June order denied North American's motion for leave to present further argument that the Commission lacks power to designate the particular system to be retained as its "single integrated public-utility system." North American's petitions to this court raise questions as to the construction and application of section 11(b) (1) and challenge its constitutional validity.

The North American Company was organized in 1890 under the laws of New Jersey. Its principal office is in the City of New York, N. Y. Its business consists in acquiring and holding for investment stocks and other securities, principally in the electric utility field. It is the top holding company in a system containing 80 companies and operating in 17 states and the District of Columbia. At no time has it engaged in the business of managing the operations of its public utility operating subsidiaries, or selling them supplies, engineering services or the like. It has, however, furnished financial advice and assistance and sponsored the in-

[1] The opinions may be found in C. C. H. Fed. Securities Law Serv., '43, §75,271 and §75,297.

terchange of operating information among the subsidiaries. On February 25, 1937 North American registered under the Act [2] and thus became "a registered holding company" within the meaning of section 11 (b) (1). This section makes it the duty of the Commission, "as soon as practicable after January 1, 1938," to require each registered holding company to take such action as the Commission may find necessary to limit the operations of the holding company system to "a single integrated public-utility system, and to such other businesses as are reasonably incidental, or economically necessary or appropriate to the operations" thereof. A proviso permits a registered holding company "to continue to control one or more additional integrated public-utility systems" if they satisfy the requirements of clauses (A) (B) and (C) of the section. The orders complained of limit North American's operations to the St. Louis system. Such other facts as are required to be stated will appear in the course of our discussion.

The first matter for consideration is the petitioner's contention that it was premature for the Commission to proceed with forced divestment under section 11 (b) (1) before it had made the studies and published its recommendations as required by section 30, 15 U. S. C. A. §79z-4. The issue was presented by a motion, denied by the Commission, to hold the proceeding in abeyance pending publication of such recommendations. It is argued that Congress expected many holding companies, if given time and guidance, voluntarily to rearrange their affairs; the operation of section 11 (b) (1) was postponed to give the time, and the Commission was instructed to supply the guidance by making public its recommendations of administrative standards in respect to the matters referred to in section 30; hence, the order of

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[2] Registration did not waive its right to future challenge of the validity of section 11. See *Electric Bond & Share Co.* v. *S. E. C.*, 303 U. S. 419, 435.

April 1942 was premature as no such guidance had been supplied. Whatever may have been the expectation of Congress as to voluntary readjustments, we can find nothing in the statutory language justifying a holding that the recommendations which the Commission is directed to "make public from time to time," are a condition precedent to invoking the procedure of section 11 (b) (1) to compel integration. If completion of *ex parte* studies under section 30 were a prerequisite to action under section 11 (b), it should equally be so to action under section 11 (e) or under section 10 (e) (1), 15 U. S. C. A. § 79j (e) (1). Since such studies and recommendations are apparently to be made "from time to time" throughout the life of the Commission, to hold that enforcement of other provisions of the statute are dependent on completion of the studies would defer their enforcement indefinitely. We cannot impute such an intention to Congress. If it be argued that enforcement as to a particular holding company should be deferred until a study has been made and recommendations published as to it, a sufficient answer is that the company must be accorded a hearing before integration can be ordered. We are satisfied that section 30 should be construed merely as an administrative direction to the Commission, not as a condition precedent to conducting a proceeding under section 11 (b) (1). Compare *United States* v. *Morgan*, 222 U. S. 274. For a discussion of the specific point see *Commonwealth & Southern Corporation*, 11 S. E. C. ——.[3]

We now turn to the petitioner's contentions relating to the interpretation and application of section 11 (b) (1). The first is as to selection of a single integrated public utility system to be retained (which may conveniently be called the "principal" system). The selection of a principal system must naturally precede any final determination of what "other businesses" are "reasonably incidental or economi-

[3] C. C. H. Fed. Securities Law Serv., '43, § 75,285.

cally necessary or appropriate to the operations of such" principal system, as well as what "additional integrated public-utility systems" the holding company is to be permitted "to continue to control." Where, as in this case, there are found to be several integrated public utility systems,[4] any one of which might reasonably be chosen as the principal system, is the choice to be made by the holding company or by the Commission? We may assume, without so deciding, that the privilege of selecting its principal system should, during preliminary stages of the section 11 (b) (1) proceeding, be accorded the holding company. This was done and only after North American had refused to express a preference between the several integrated public utility systems, was the St. Louis system selected by the Commission as the principal system for retention. No contention is made that the Commission made an unreasonable selection or that the selection of a different system would be more beneficial to North American. Its argument is merely that it cannot now tell which two of the three sytsems (St. Louis, Cleveland and Wisconsin) will be most marketable; that section 11 (c) gives it at least one year for compliance with the divestment order; and therefore it may select its principal system at any time within the period allowed for compliance. We do not think the statute contemplates such deferment of selection. It would necessarily result in delays. The Commission's duty is to act under section 11 (b) "as soon as practicable," and due diligence in complying with the order is prescribed by section 11 (c). Nor do we see that deferment in selecting the principal system is necessary to ade-

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[4] The Commission found that the electric operations in each of the areas centering at St. Louis, Washington, Cleveland, Detroit and Wisconsin, respectively, constitute a single integrated public utility system within the meaning of the Act. North American's contentions in the aspect now under discussion are confined to the St. Louis, Cleveland and Wisconsin systems.

quate protection of a holding company against circumstances which may arise during the period allowed for compliance with the order. If changes occur in "the conditions upon which the order was predicated," the Commission is authorized by subsection (b) to revoke or modify any order previously made thereunder. Under the circumstances disclosed by this record we see no error in the Commission's selection of the St. Louis system as the principal system for retention.

It is next contended that the Commission erred in limiting North American to the retention of a single integrated system; that under the (A) (B) (C) standards of section 11 (b) (1), properly interpreted and applied, it is entitled to retain as additional or secondary systems the groups of subsidiaries which constitute the Cleveland and the Wisconsin systems. The (A) standard requires a finding that the additional system cannot be operated independently "without the loss of substantial economies which can be secured by the retention of control" by the holding company. It has been the practice of North American to furnish financial advice and, on occasions, direct financial assistance to its subsidiaries, and to sponsor the interchange of statistics and operating information among them. Such practices, it is urged, have been of great value to the Cleveland and the Wisconsin systems and a discontinuance of their relations with North American will cause them the loss of "substantial economies." After considering these arguments and the evidence presented in their support, the Commission refused to find that the additional systems could not be operated independently without the loss of substantial economies. Whether economy is achieved by centralized control is always a doubtful question and one peculiarly fitted for decision by an administrative agency staffed by experts. On such an issue a court cannot review or reweigh the evidence. See *Morgan Stanley & Co.* v. *Securities Exchange Com'n*,

126 F. 2d 325 (C. C. A. 2); section 24(a) of the Act, 45 U. S. C. A. §79x(a). With the Commission's ruling that "substantial economies" means important economies and not merely something more than nominal, we are in accord.

The Commission also found that neither additional system met the (C) standard. But we need not consider the correctness of this ruling, nor the interpretation placed upon clause (B), because the failure to satisfy the requirements of clause (A) precludes retention of the additional systems, since all three clauses must be satisfied to secure the right to retain more than the primary system.

North American complains that divestment has been ordered of its investments in three non-utility companies and that this has resulted from an erroneous construction of the "other business" clauses of section 11 (b) (1). The section requires a registered holding company to limit its operations to a single integrated public utility system, "and to such other businesses as are reasonably incidental, or economically necessary or appropriate to the operations of such integrated public utility system." Then follows the proviso dealing with additional integrated public utility systems, and next comes the following provision:

> "The Commission may permit as reasonably incidental, or economically necessary or appropriate to the operations of one or more integrated public-utility systems, the retention of an interest in any business (other than the business of a public-utility company as such) which the Commission shall find necessary or appropriate in the public interest or for the protection of investors or consumers and not detrimental to the proper functioning of such system or systems."

The Commission interpreted these "other business" clauses to permit retention only when it affirmatively appears "that

the public interest will be furthered by retention of a non-utility interest by reason of its relation 'to economy of management and operation' of a public utility system or systems or 'the integration and coordination of related operating properties.' " This conclusion is consonant with the policy of the Act expressed in section 1 (b) (4), 15 U. S. C. A. §79a(b) (4) which declared that "the national public interest" is or may be adversely affected "when the growth and extension of holding companies bears no relation to economy of management and operation or the integration and coordination of related operating properties." We agree with the Commission's interpretation. It is apparently not disputed that the three other businesses are unrelated to the operations of the St. Louis system. Consequently no error appears in ordering their divestment.

There remains for consideration the petitioner's attack upon the constitutional validity of section 11 (b) (1). It is urged that under the commerce clause of the Constitution, Art. I, sec. 8, cl. 3, Congress does not possess the power it has sought to exercise by this section of requiring a registered holding company to divest itself of all securities other than those related to a single integrated public utility system. Many of North American's subsidiaries are engaged in interstate commerce, but the ownership of securities issued by them does not of itself constitute engaging in interstate commerce; the ownership of property is characteristically an intrastate matter. Such ownership can be asserted to be subject to congressional regulation under the commerce clause only on the ground that it so affects interstate commerce as to make regulation of it an appropriate means to the attainment of a legitimate end. See *United States* v. *Wrightwood Dairy Co.*, 315 U. S. 110, 119; *United States* v. *Darby*, 312 U. S. 100, 118. Counsel argues that section 11 (b) (1) does not make such effect the test of its application;

it assumes that the mere fact that a holding company has registered under section 5 [5] of the Act indicates a sufficient relationship to interstate commerce to support the asserted power, and it provides for divestment orders without any specific finding by the commission or by a court that the company is engaged in interstate commerce or that interstate commerce will be adversely affected by retention of the securities it owns. But we think the necessity for such specific finding is eliminated by the statutory scheme. Section 1 expounds the policy underlying the necessity for control of holding companies as defined in section 2(a)(7). It declares them to be affected with a national public interest because, among other things, "their practices in respect of and control over subsidiary companies often materially affect the interstate commerce in which those companies engage," [6] and the extension of their activities over many states makes difficult, if not impossible, effective state regulation of public utility companies.[7] It is further declared that the national public interest is or may be adversely affected when the growth and extension of holding companies bears no relation to economy of management and operation or the integration and coördination of related operating properties.[8] Section 3 provides administrative procedure by which a holding company can obtain exemption from any provision of the Act, if it and its subsidiaries are predominantly intrastate in character.[9] North American did not avail itself of this administrative remedy; nor does it now assert that it is entitled to exemption. On the contrary its activities and those of its subsidiaries clearly bring it within the class of holding companies which section 1 declares affect interstate

[5] 15 U. S. C. A. §79e.

[6] Section 1(a) (4), 15 U. S. C. A. §79a(a)(4).

[7] Section 1(a) (5), 15 U. S. C. A. §79a(a)(5).

[8] Section 1(b) (4), 15 U. S. C. A. §79a(b)(4).

[9] Section 3(a)(1) and (2), 15 U. S. C. A. §79c(a)(1) and (2).

commerce and require regulation. Hence the essence of the petitioner's argument comes down to the contention that the retention of securities, which section 11(b) (1) assumes to regulate, is a purely intrastate matter and beyond congressional power.

That the power of Congress to regulate interstate commerce extends to regulation through legislative action of activities intrastate which have a substantial effect on the commerce cannot be, and is not, disputed. In *United States* v. *Darby*, 312 U. S. 100 at page 120, the court noted that in such legislation determination whether the intrastate activities have the prohibited effect on the interstate commerce, has sometimes been left to the courts, sometimes to an administrative tribunal, and "sometimes Congress itself has said that a particular activity affects the commerce * * *" The statute there under discussion, like the one now before us, belonged to the class last mentioned. In passing on the validity of that class of legislation the opinion states that "the only function of the courts is to determine whether the particular activity regulated or prohibited is within the reach of the federal power." To what extent that power can reach has been very recently demonstrated by *Wickard* v *Filburn*, 317 U. S. ——, decided November 9, 1942. There it was held that a small farmer's production of wheat for his own use could be regulated under the Agricultural Adjustment Act of 1938, as amended, because in the aggregate the consumption of home-grown wheat by many small farmers affects the price and market conditions of wheat transported between the states. If the commerce clause has a sweep so broad as that, we cannot say that Congress has exceeded its power in regulating the ownership of securities by a holding company whose subsidiaries are engaged in interstate commerce.

The final argument is that section 11 (b) (1) violates the Fifth Amendment. The guaranty of due process demands

only that the law shall not be "unreasonable, arbitrary, or capricious, and that the means selected shall have a real and substantial relation to the object sought to be attained." *Nebbia v. New York*, 291 U. S. 502, 525. The object sought by the statute under consideration is the elimination of abuses in the public utility holding company field. It is argued that the divestment of securities required by section 11 is not a reasonable means to that end because it will involve a destruction of values. We do not think the argument can prevail. Congress did not think it could accomplish its object solely by regulating future transactions, although many of the provisions of the Act apply only to them. To eliminate existing conditions which adversely affect the public interest Congress considered it necessary to enact section 11. The means selected are clearly adapted to the end in view. The wisdom of the legislation and the appropriateness of the remedy chosen is not the concern of the courts. See *Sunshine Anthracite Coal Co.* v. *Adkins*, 310 U. S. 381, 394. Compelling the holding company to dispose of its securities is not the same as condemning private property for public use without paying just compensation. Under section 11 (c) the petitioner is given a year within which to comply with the order and may on proper showing obtain an additional period not exceeding one year. If divestment can be effected by distribution in kind, there may be no loss in values. If, as petitioner contends, such distribution will be impossible and a liquidation by sale becomes necessary, the process may be painful to its common stockholders, but we cannot say that the remedy selected by Congress is so unreasonable, arbitrary or capricious as to constitute taking property without due process.

Orders affirmed.

IN THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE SECOND CIRCUIT

THE NORTH AMERICAN COMPANY, Petitioner,

v.

SECURITIES AND EXCHANGE COMMISSION, Respondent

DECREE

This cause came on to be heard at this term and was argued by counsel, and the Court having considered the briefs of the parties and the arguments of counsel and being fully advised in the premises and having filed its opinion herein, it is

Ordered, Adjudged and Decreed that the orders of the Securities and Exchange Commission entered on April 14, 1942 and June 25, 1942 in the cause entitled "In the Matter of the North American Company and its Subsidiaries, File No. 59-10," be and they hereby are affirmed.

Learned Hand, Thomas W. Swan, Circuit Judges.

Dated: —— — ——.

Approved as to form. Sullivan & Cromwell, Attorneys for the Petitioner. John F. Davis, Solicitor; Milton V. Freeman, Asst. Solicitor, Attorneys for Respondent.

[Endorsed:] No. American Co. v. Sec. & Exch. Comm. Order. United States Circuit Court of Appeals, Second Circuit. Filed Jan. 28, 1943. D. E. Roberts, Clerk.

UNITED STATES OF AMERICA, SOUTHERN DISTRICT OF NEW YORK

I, D. E. Roberts, Clerk of the United States Circuit Court of Appeals for the Second Circuit, do hereby certify that the foregoing pages, numbered from I to XXIX and 1 to 4012, inclusive in 10 volumes, contain a true and complete transcript of the record and proceedings had in said Court, in the case of The North American Company, Petitioner, against Securities and Exchange Commission, Respondent, as the same remain of record and on file in my office.

In Testimony Whereof, I have caused the seal of the said Court to be hereunto affixed, at the City of New York, in the Southern District of New York, in the Second Circuit, this sixth day of February, in the year of our Lord one thousand nine hundred and forty-three, and of the Independence of the said United States the one hundred and sixty-seventh.

D. E. Roberts, Clerk. (Seal.)

SUPREME COURT OF THE UNITED STATES, OCTOBER TERM, 1942

No. 721

ORDER ALLOWING CERTIORARI—Filed March 1, 1943

The petition herein for a writ of certiorari to the United States Circuit Court of Appeals for the Second Circuit is granted.

And it is further ordered that the duly certified copy of the transcript of the proceedings below which accompanied the petition shall be treated as though filed in response to such writ.

The Chief Justice took no part in the consideration or decision of this application.

FILE COPY

Office - Supreme Court, U. S.
FILED
FEB 10 1943
CHARLES ELMORE CROPLEY

IN THE

Supreme Court of the United States

October Term—1942

No. 721 [redacted] 1

THE NORTH AMERICAN COMPANY,
Petitioner,

against

SECURITIES AND EXCHANGE COMMISSION

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE SECOND CIRCUIT

CHARLES E. HUGHES, JR.,
Counsel for the Petitioner.

SULLIVAN & CROMWELL,
Attorneys for the Petitioner.

February, 1943.

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IN THE

Supreme Court of the United States

OCTOBER TERM—1942

No.

THE NORTH AMERICAN COMPANY,
Petitioner,

against

SECURITIES AND EXCHANGE COMMISSION,
Respondent.

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE SECOND CIRCUIT

The North American Company prays that a writ of certiorari be issued to review the decree of the United States Circuit Court of Appeals for the Second Circuit entered in the above entitled cause on January 28, 1943.

OPINIONS BELOW

The opinion of the United States Circuit Court of Appeals for the Second Circuit (R. 4000) is unreported as yet. The Securities and Exchange Commission (hereinafter called the Commission) issued opinions and orders dated April 14, 1942

(R. 194) and June 25, 1942 (R. 214) as its Holding Company Act Releases Nos. 3405 and 3629, which are not yet officially reported.

STATUTE INVOLVED

The statute involved is Title I of the Public Utility Act of 1935 entitled "An Act to provide for control and regulation of public-utility holding companies, and for other purposes", 49 Stat. 803 (hereinafter called the Act). The orders of the Commission were entered under Section 11(b)(1) of the Act. A sufficient number of copies of the Act for the Court are filed with this petition.

JURISDICTION

The decree of the Circuit Court of Appeals for the Second Circuit sought to be reviewed was entered on January 28, 1943. The jurisdiction of this Court is invoked under Section 240(a) of the Judicial Code as amended by the Act of February 13, 1925, made applicable by Section 24(a) of the Act.

QUESTIONS PRESENTED

1. Is Section 11(b)(1) of the Act within the power of Congress, under Article I, section 8, clause 3 of the Constitution, to regulate commerce among the several States?

2. Does Section 11(b)(1) of the Act violate the due process clause of the Fifth Amendment?

STATEMENT

The decree of the Circuit Court of Appeals of which review is sought affirmed two orders of the Commission.

The order of April 14, 1942 directs the petitioner to divest itself of all its assets other than securities of Union Electric Company of Missouri, except that the Commission reserved jurisdiction hereafter to enter an order directing petitioner to divest itself of securities of St. Louis County Gas Company and of 60 Broadway Building Corporation. The assets of which petitioner is ordered to divest itself cost it approximately $190,000,000. The order of June 25, 1942 refused permission to the petitioner to choose for itself the integrated public utility system which it might retain.

The petitioner, a New Jersey corporation with its principal office in New York City, was organized in 1890 and has since continuously engaged in the business of acquiring and holding for investment stocks and other securities, principally in the electric utility field. It has no other business (R. 2084-5, 2807, 2925). It registered under the Act on February 25, 1937 (reserving its constitutional rights),* and is thus "a registered hold-

*See *Landis, et al.* v. *The North American Company*, 299 U. S. 248, 251-252 (1936); *Electric Bond & Share Co., et al.* v. *Securities and Exchange Commission, et al.*, 303 U. S. 419, 435 (1938).

ing company" within the meaning of Section 11(b)(1).

The investments of petitioner dealt with by the Commission's opinion, findings and order are set out in Appendix A hereto.

Petitioner's direct and indirect investments in *utilities engaged in interstate commerce* are:

Wisconsin Electric Power Company: An electric utility company which, with its subsidiaries, operates in and around Milwaukee and to the north, including an area in the upper peninsula of Michigan. Petitioner's investment, which consists of 94% of the common stock, commenced in 1890 (R. 838-9, 2832; SEC Holding Company Act Release 2950).

Union Electric Company of Missouri: An electric utility company which, with its subsidiaries, operates in and around St. Louis, Missouri, including adjacent Illinois territory. Petitioner's investment, which consists of all of the common stock, commenced in 1901 (R. 91, 92). Petitioner also directly owns all of the stock of The St. Louis County Gas Company, a relatively small company which furnishes gas service in St. Louis County, a suburban county in Missouri, which does not include the city of St. Louis (R. 1870).

Washington Railway and Electric Company: A holding company which holds all of the common stock of Potomac Electric Power Company, an electric utility company which serves the District

of Columbia and an adjoining area in Maryland, and of a minor company which serves a small adjacent area in Virginia, together with 50% of the capital stock of Capital Transit Company, which furnishes street car and bus service in the District of Columbia. Petitioner's investment, which consists of 80% of the common stock, commenced in 1924 (R. 132-4, 2826).

North American Light & Power Company: A holding company which holds stocks of electric utility companies and gas utility companies operating in Kansas, Missouri, Illinois and Iowa. This holding company is in process of dissolution; and petitioner will eventually receive such proceeds of liquidation as are applicable to its holdings of securities of various classes. This investment commenced in 1926 (R. 139, 2826).

Petitioner's investments in *utilities not engaged in interstate commerce* are:

The Cleveland Electric Illuminating Company: An electric utility company which serves Cleveland and the surrounding area. Its business is confined within Ohio. Petitioner's investment, which consists of 79% of the common stock, commenced in 1922 (R. 327, 646-50, 2826).

Pacific Gas and Electric Company: An electric utility company which, with its subsidiaries, operates in and around San Francisco and to the north. Its business is confined within California. Petitioner's ownership, which consists of 33% of the

common stock, represents an investment which started in 1925 (SEC Holding Company Act Release 2988).

The Detroit Edison Company: An electric utility company which serves Detroit and the surrounding area. Its business is confined within Michigan. Petitioner's investment, dating from 1903, which at the time of commencement of the proceedings consisted of 19.2% of the capital stock, now consists of approximately 2% of the capital stock (R. 93; SEC Holding Company Act Release 4056).

Petitioner's investment in *non-utilities engaged in interstate commerce* is:

West Kentucky Coal Company: A company which owns and operates coal mines in Kentucky and sells coal, partly through subsidiary selling companies, in several States. Very little of this company's coal has been sold to utility companies in which petitioner holds investments. Petitioner's investment, which consists of most of the preferred stock and 100% of the common stock, commenced in 1905 (R. 123, 2858).

Petitioner's investments in *non-utilities not engaged in interstate commerce* are:

North American Utility Securities Corporation: A relatively small investment company. Petitioner's interest, which consists of all of the preferred stock and 80% of the common stock, commenced in 1924 (R. 119, 120).

60 Broadway Building Corporation: A company whose only asset is the office building in New York where petitioner has its offices. Petitioner's investment, which consists of 100% of the capital stock, commenced in 1924 (R. 121, 122).

Miscellaneous investments covered by the order also include:

$120,000 of 5% Notes of Capital Transit Company.

4,700 shares of preferred stock of Illinois Iowa Power Company.

An investment of $400,000 in Milwaukee Light, Heat & Traction Company whose sole assets are real estate held for liquidation and stock of a small electric furnace enterprise (R. 1507-8).

It will be noted from the foregoing summary that petitioner's investments have been continuous and are of long standing. In making and retaining its investments in the Wisconsin, St. Louis, Cleveland, Washington, Detroit and California areas, petitioner has long followed a policy of diversification which has proved sound and of substantial value to its securityholders (R. 2831-2, 3013-4).

Petitioner has at no time engaged in the business of managing the operations of its public utility operating subsidiaries, or selling them supplies, engineering services or the like. Its relationship has, essentially, been that of a large investor seek-

ing to promote the sound development of his investment. Petitioner has consistently proclaimed and practiced the policy of local autonomy for each public utility operating company and has sought to use its voting power to assure good local management which has had the genuine responsibility of conducting operations. Petitioner has furnished financial advice and assistance and sponsored the interchange of valuable operating information among the subsidiaries (R. 100-1, 2903, 2922).

Petitioner has been conservatively financed and its financial practices have been sound. There has never been a default on any security issued by petitioner (R. 2815, 2869-70, 2892-3). Residential electric rates charged by petitioner's operating utility subsidiaries are far below the national average and among the lowest in the country (Petitioner's Exhibits 124, 141, R. 3284, 3310).

Petitioner itself has accepted the strictest and most comprehensive regulation by the Commission, while its utility subsidiaries have been completely regulated for many years by the respective State commissions.

SPECIFICATION OF ERRORS TO BE URGED

The Circuit Court of Appeals erred:

1. In holding that Section 11(b)(1) of the Act is within the power of Congress to regulate commerce among the several States.

2. In holding that Section 11(b)(1) of the Act is not violative of the Fifth Amendment to the Constitution.

REASONS FOR GRANTING THE WRIT

(1) This case presents Federal questions of great importance which have not been, but should be, settled by this Court.

The orders of the Commission and the decree of the Court below affirming those orders hold that the statute requires the divestment of the greater part of petitioner's assets. As thus interpreted and applied, the statute will require many public utility holding companies to divest themselves of assets, and will cause hardship to many stockholders.

The questions of the constitutionality of Section 11(b)(1) of the Act should, therefore, be reviewed by this Court. They present Federal questions of great public importance which should be and have not heretofore been passed upon by this Court. This Court has had before it on two prior occasions suits involving the constitutionality of the Act and has expressly reserved passing upon the constitutionality of Section 11(b)(1).

In *Landis, et al.* v. *The North American Company*, 299 U. S. 248 (1936), this Court had before it the action of the District Court for the

District of Columbia in staying the suit brought by petitioner to enjoin enforcement of the Act against it. There was not involved in that review the question of the constitutionality of Section 11(b)(1). However, this Court said (p. 256) that the questions arising in suits to resist enforcement of the Act were "of extraordinary public moment" which presented "grave issues" and "novel problems of far-reaching importance to the parties and the public".

In *Electric Bond & Share Company, et al.* v. *Securities and Exchange Commission, et al.*, 303 U. S. 419 (1938), the Commission sought to compel the petitioners there to register under the Act, and in a cross-bill the petitioners sought to enjoin enforcement of the Act against them. This Court, in requiring the petitioners to register, held that the registration sections of the Act were separable and expressly reserved questions concerning the constitutionality of the provisions of the Act other than the registration sections. This Court said:

> "It is evident that the provisions of §§ 4(a) and 5 are not so interwoven with the other provisions of the Act that there is any inherent or practical difficulty in the separation and independent enforcement of the former while reserving all questions as to the validity of the latter. * * * If this decree is affirmed, it will constitute a specific adjudication that registration will be without prej-

udice to future challenge of the validity of any provision of the Act, or requirement of the Commission, outside of §§ 4(a) and 5." (pp. 434-435)

(2) The decision of the Court below does not give proper effect to the applicable decisions of this Court defining the power of Congress under the Commerce Clause.

The assets of which petitioner is ordered to divest itself consist wholly of securities of other corporations. The ownership of securities does not of itself constitute engaging in interstate commerce.

An intrastate matter, such as the ownership of securities, is not within the reach of the Federal power unless it so affects matters which are interstate that its control is necessary to protect the latter. *United States* v. *Wrightwood Dairy Co.*, 315 U. S. 110 (1942). However, in such case there must be a specific finding that interstate commerce is affected. And this finding must be made by the Court, the Commission, or Congress. *United States* v. *Darby*, 312 U. S. 100 (1941).

In the case at bar, the Commission concededly made no finding that the ownershp of the securities of which it ordered the petitioner to divest itself, or the ownership of any of them affected interstate commerce. The Circuit Court made none. It affirmed the orders of the Commission on the

theory that Congress itself had made the necessary findings. However, the only general finding that Congress made* is that public utility holding companies are affected "with a national public interest". Such a finding is insufficient as a basis for Federal jurisdiction under the commerce power. True, Congress declared* that the activities of public utility holding companies "often" affected interstate commerce, but that is not tantamount to a general finding that interstate commerce is affected merely by holding company ownership of securities in other corporations. It is at best a contingent finding that certain unspecified activities of some holding companies affect interstate commerce. To bring the orders of the Commission within the reach of the Federal power, this Congressional finding would have to be supplemented by findings that the petitioner's ownership of securities in other corporations sufficiently affects interstate commerce. No such findings were made by the Commission or the Court below; and the Act contains no provision authorizing either the Commission or the Court to make any such findings.

The statute involved in *Wickard, et al.* v. *Filburn*, 317 U. S. (November 9, 1942), was of a wholly different character from the Act here in question. It was an amendment to the Agricul-

*Section 1 of the Act.

tural Adjustment Act of 1938, Title III of which declared a policy and provided machinery for the regulation of interstate and foreign commerce and the prevention of burdens thereon by comprehensive regulation of the supply of basic agricultural commodities, including wheat. (See declaration of policy introducing the entire Act in Section 2, and the provisions of Title III containing general definitions (Section 301(a)(3) and (4), the legislative findings as to wheat in Section 331 and the provisions of Sections 335-339 regarding marketing quotas.) The question before this Court was simply whether, in view of the use to which Filburn put his wheat, his surplus could be said to affect interstate commerce sufficiently to make the application of the statute to him constitutional. In that case there was also a stipulation of the economic facts on the basis of which this Court found that the raising of wheat, for Filburn's own consumption, affected the marketing of wheat in interstate commerce. In the case at bar no such facts appear in the record, and it is necessary, if the Act is to be held within reach of the Federal power, that the ownership of securities *as a matter of law* affects interstate commerce.

(3) The decision of the Court below does not give proper effect to the applicable decisions of this Court under the Fifth Amendment.

The object which Congress sought to attain through the Act was the elimination of the enu-

merated "abuses".* The means selected were: (i) the far-reaching regulatory provisions of the Act other than Section 11, and (ii) divestment under Section 11. The petitioner contends that substantially all abuses are eliminated through the far-reaching regulatory sections of the Act other than Section 11. In view of this, the contribution which enforcement of that section would make to the Congressional purpose of eliminating abuses in the public utility field would be slight. It follows, we submit, that Section 11(b)(1) bears no such reasonable and substantial relation to the object sought to be attained as to be justified under the rule of *Nebbia* v. *New York*, 291 U. S. 502 (1934), cited by the Court below.

On the other hand, enforcement of Section 11(b)(1) would deprive petitioner of large properties and important property rights and inevitably visit upon it and its stockholders an enormous destruction of values. In *Wickard, et al.* v. *Filburn, supra*, the grounds upon which this Court upheld the legislation there involved against attack under the Fifth Amendment were that its apparently retroactive features were not actually such because "the penalty was contingent upon an act which appellee committed not before but after the enactment of the statute", and that the

*These so-called "abuses" are enumerated in Section 1(b) of the Act.

statute, along with the detriments complained of, conferred large benefits upon the appellee. This Court concluded:

> "* * * That appellee is the worse off for the aggregate of this legislation does not appear; it only appears that if he could get all that the Government gives and do nothing that the Government asks, he would be better off than this law allows. To deny him this is not to deny him due process of law."

Neither of these grounds applies to Section 11(b)(1). Its operation is manifestly retroactive and neither that section nor the act as a whole confers upon petitioner any benefit to compensate for the deprivation of property which its enforcement would entail.

We submit that, in such a situation, the test of the *Nebbia* case is not satisfied and that the applicable authority is *Louisville Joint Stock Land Bank* v. *Radford*, 295 U. S. 555, 589, 601-602 (1935).

(4) The decision of the Court below is in conflict with a decision of the Circuit Court of Appeals for the Fourth Circuit.

Under the opinion of the Court below Section 11(b)(1) of the Act is applicable to all registered holding companies which have not obtained exemption pursuant to Section 3(a) of the Act.

In this respect the opinion below is in direct conflict with the opinion of the Circuit Court of Appeals for the Fourth Circuit in the case of *Burco, Inc.* v. *Whitworth, et al.*, 81 F. (2d) 721 (1936) cert. den. 297 U. S. 724 which holds that the Act is invalid in so far as it applies to companies which are not engaged in interstate commerce, even though such companies do not seek exemption. This inconsistency, between the two Circuit Courts of Appeals, is not resolved by the case of *Electric Bond & Share Co.* v. *Securities and Exchange Commission, et al.*, 303 U. S. 419 (1938) since only the registration sections (Sections 4 and 5) of the Act were involved in that case.

CONCLUSION

Because of the importance of the Federal questions presented and for the other reasons stated, this petition for a writ of certiorari should be granted.

Respectfully submitted,

CHARLES E. HUGHES, JR.,
Counsel for the Petitioner.

SULLIVAN & CROMWELL,
Attorneys for the Petitioner.

February, 1943.

APPENDIX A

THE NORTH AMERICAN COMPANY

(SUMMARY OF INVESTMENTS HELD AT SEPTEMBER 30, 1942; BASED ON PETITIONER'S EXHIBIT 125 AND R. 2857, ADJUSTED TO REFLECT CHANGES TO SEPTEMBER 30, 1942)

	Number of shares or principal amount owned by The North American Company	Carrying value at September 30, 1942
Wisconsin Electric Power Company		
Preferred Stock	13,494 shs.	$ 1,349,400.00
Common Stock	2,493,710 shs.	30,868,039.46
Union Electric Company of Missouri		
Common Stock	2,695,000 shs.	61,840,780.70
Laclede Power and Light Company		
Common Stock Voting Trust Certificates		404,040.89
Mississippi River Power Company		
6% Preferred Capital Stock Scrip		62.63
Common Stock		22,522.00
The St. Louis County Gas Company		
Capital Stock	41,000 shs.	4,100,000.00
Washington Railway and Electric Company		
Common Capital Stock	50,197 shs.	10,272,456.27
Participating Units for Deposited Shares	65,233 ctfs.	333,737.94
Capital Transit Company		
Capital Stock	3,012 shs.	274,093.92
5% Notes maturing serially from 1943 to 1946	$120,000	120,000.00
North American Light & Power Company		
$6 Preferred Stock	84,925 shs.	4,157,044.21
Common Stock	5,327,067 shs.	22,211,602.54
5½% Debentures, due July 1, 1956	$5,623,500	3,791,211.94
Illinois Iowa Power Company (formerly Illinois Power and Light Corporation)		
5% Preferred Stock	4,700 shs.	155,795.13

THE NORTH AMERICAN COMPANY

(SUMMARY OF INVESTMENTS—Continued)

	Number of shares or principal amount owned by The North American Company	Carrying value at September 30, 1942
Common Stock	4,700 shs.	53,085.7
Dividend Arrears Certificates	4,700 ctfs.	56,547.8
The Cleveland Electric Illuminating Company		
Common Stock	1,847,908 shs.	38,417,339.0
Pacific Gas and Electric Company		
Common Stock	2,002,770 shs.	63,765,418.6
The Detroit Edison Company		
Capital Stock	297,894 shs.	7,268,084.7
West Kentucky Coal Company (N. J.)		
7% Cumulative Preferred Stock		3,801,350.5
Common Stock		1.0
North American Utility Securities Corporation		
Second Preferred Stock	60,000 shs.	1,703,757.3
Common Stock	376,151 shs.	
60 Broadway Building Corporation		
Capital Stock		350,000.0
Open Account		1,663,813.6
Milwaukee Light, Heat & Traction Company		
Capital Stock		400,000.0
Associated Music Publishers, Inc.		
Preferred Stock		450,000.0
3% Note due April 27, 1943		23,000.0
		$257,853,186.2

FILE COPY

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OCTOBER TERM—1942

No. 721.

THE NORTH AMERICAN COMPANY,
Petitioner,

against

SECURITIES AND EXCHANGE COMMISSION,
Respondent.

ON WRIT OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE SECOND CIRCUIT

BRIEF OF PETITIONER

CHARLES E. HUGHES, JR.,
Counsel for Petitioner.

SULLIVAN & CROMWELL,
Of Counsel.

March 25, 1943.

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ON WRIT OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE SECOND CIRCUIT

BRIEF OF PETITIONER

Writ of certiorari was granted by this Court to review the decree of the United States Circuit Court of Appeals for the Second Circuit entered in the above entitled cause on January 28, 1943.

That decree affirmed orders of the Securities and Exchange Commission (hereinafter called the "Commission") entered in a proceeding initiated by the Commission under Section 11(b)(1) of the Public Utility Holding Company Act of 1935, by notice of and order for hearing (R., Vol. I, 1-33) on March 8, 1940.

OPINIONS BELOW

The opinion of the United States Circuit Court of Appeals for the Second Circuit (R., Vol. X, 4000-4010) is unreported as yet.

The Commission's Findings and Opinion (R., Vol. I, 73-193), and Orders dated April 14, 1942 (R., Vol. I, 194-204) and June 25, 1942 (R., Vol. I, 214-217) are its Holding Company Act Releases Nos. 3405 and 3629, which are not yet officially reported.

STATUTE INVOLVED

The statute involved is Title I of the Public Utility Act of 1935 entitled "An Act to provide for control and regulation of public-utility holding companies, and for other purposes", 49 Stat. 803 (hereinafter called the "Act").

The provision thereof which is directly involved, and under which the orders of the Commission were entered, is Section 11(b)(1) which provides as follows:

> "(b) It shall be the duty of the Commission, as soon as practicable after January 1, 1938:
>
> (1) To require by order, after notice and opportunity for hearing, that each registered holding company, and each subsidiary company thereof, shall take such action as the Commission shall find necessary to limit the operations of the holding-company system of which such company is a part to a single integrated public-utility system, and to such other businesses as are reasonably incidental, or economically necessary or appropriate to the operations of such integrated public-utility system: *Provided, however,* That the Commission shall permit a regis-

tered holding company to continue to control one or more additional integrated public-utility systems, if, after notice and opportunity for hearing, it finds that—

(A) Each of such additional systems cannot be operated as an independent system without the loss of substantial economies which can be secured by the retention of control by such holding company of such system;

(B) All of such additional systems are located in one State, or in adjoining States, or in a contiguous foreign country; and

(C) The continued combination of such systems under the control of such holding company is not so large (considering the state of the art and the area or region affected) as to impair the advantages of localized management, efficient operation, or the effectiveness of regulation.

The Commission may permit as reasonably incidental, or economically necessary or appropriate to the operations of one or more integrated public-utility systems the retention of an interest in any business (other than the business of a public-utility company as such) which the Commission shall find necessary or appropriate in the public interest or for the protection of investors or consumers and not detrimental to the proper functioning of such system or systems."

A sufficient number of copies of the entire Act for the Court were filed with the petition for certiorari.

JURISDICTION

The decree of the Circuit Court of Appeals for the Second Circuit under review was entered on January 28,

1943. The jurisdiction of this Court is invoked under Section 240(a) of the Judicial Code as amended by the Act of February 13, 1925, made applicable by Section 24(a) of the Act.

The writ of certiorari was granted by this Court on March 1, 1943.

QUESTIONS PRESENTED

1. Is Section 11(b)(1) of the Act within the power of Congress, under Article I, section 8, clause 3 of the Constitution, to regulate commerce among the several States?

2. Does Section 11(b)(1) of the Act violate the due process clause of the Fifth Amendment?

STATEMENT

The decree of the Circuit Court of Appeals, here under review, affirmed two orders of the Commission.

The order of April 14, 1942 directs the petitioner to divest itself of all its assets other than securities of Union Electric Company of Missouri, except that the Commission reserved jurisdiction hereafter to enter an order directing petitioner to divest itself of securities of St. Louis County Gas Company and of 60 Broadway Building Corporation. The assets of which petitioner is ordered to divest itself cost it approximately $190,000,000. The order of June 25, 1942 refused permission to the petitioner to choose for itself the integrated public utility system which it might retain.

The petitioner, a New Jersey corporation with its business office in New York City, was organized in 1890 and has since continuously engaged in the business of acquiring

and holding for investment stocks and other securities, principally in the electric utility field. It has no other business. (R., Vol. VI, 2084-5; Vol. VII, 2807; Vol. VIII, 2925).

Petitioner registered under Section 5 of the Act on February 25, 1937 (reserving its constitutional rights),* and is thus a "registered holding company" within the meaning of Section 11(b)(1).

The investments of petitioner dealt with by the Commission's opinion, findings and order are set out in Appendix A hereto.

Petitioner's direct and indirect investments in *utilities engaged in interstate commerce* are:

Wisconsin Electric Power Company: An electric utility company which, with its subsidiaries, operates in and around Milwaukee and to the north, including an area in the upper peninsula of Michigan. Petitioner's investment, which consists of 94% of the common stock, commenced in 1890. (R., Vol. III, 838-9; Vol. VII, 2832; SEC Holding Company Act Release 2950).

Union Electric Company of Missouri: An electric utility company which, with its subsidiaries, operates in and around St. Louis, Missouri, including adjacent Illinois territory. Petitioner's investment, which consists of all of the common stock, commenced in 1901. (R., Vol. I, 91, 92). Petitioner also directly owns all of the stock of The St. Louis County Gas Company, a relatively small company

*See *Landis* v. *The North American Company*, 299 U. S. 248, 251-252; *Electric Bond & Share Co.* v. *Securities and Exchange Commission*, 303 U. S. 419, 435.

which furnishes gas service in St. Louis County, a suburban county in Missouri, which does not include the city of St. Louis (R., Vol. V, 1870).

Washington Railway and Electric Company: A holding company which holds all of the common stock of Potomac Electric Power Company, an electric utility company which serves the District of Columbia and an adjoining area in Maryland, and of a minor company which serves a small adjacent area in Virginia, together with 50% of the capital stock of Capital Transit Company, which furnishes street car and bus service in the District of Columbia. Petitioner's investment, which consists of 80% of the common stock, commenced in 1924 (R., Vol. I, 132-4; Vol. VII, 2826).

North American Light & Power Company: A holding company which holds stocks of electric utility companies and gas utility companies operating in Kansas, Missouri, Illinois and Iowa. This holding company is in process of dissolution; and petitioner will eventually receive such proceeds of liquidation as are applicable to its holdings of securities of various classes. This investment commenced in 1926. (R., Vol. I, 139; Vol. VII, 2826).

Petitioner's investments in *utilities not engaged in interstate commerce* are:

The Cleveland Electric Illuminating Company: An electric utility company which serves Cleveland and the surrounding area. Its business is confined within Ohio. Petitioner's investment, which consists of 79% of the common stock, commenced in 1922. (R., Vol. II, 327, 646-50; Vol. VII, 2826).

Pacific Gas and Electric Company: An electric utility company which, with its subsidiaries, operates in and around San Francisco and to the north. Its business is confined within California. Petitioner's ownership, which consists of 33% of the common stock, represents an investment which started in 1925. (SEC Holding Company Act Release 2988).

The Detroit Edison Company: An electric utility company which serves Detroit and the surrounding area. Its business is confined within Michigan. Petitioner's investment, dating from 1903, at the time of commencement of the proceedings consisted of 19.2% of the capital stock. (R., Vol. I, 93; SEC Holding Company Act Release 4056). By April 2, 1943, this holding will have been reduced to less than ⅛ of 1%.

Petitioner's investment in *non-utilities engaged in interstate commerce* is:

West Kentucky Coal Company: A company which owns and operates coal mines in Kentucky and sells coal, partly through subsidiary selling companies, in several states. Very little of this company's coal has been sold to utility companies in which petitioner holds investments. Petitioner's investment, which consists of most of the preferred stock and 100% of the common stock, commenced in 1905. (R., Vol. I, 123; Vol. VII, 2858).

Petitioner's investments in *non-utilities not engaged in interstate commerce* are:

North American Utility Securities Corporation: A relatively small investment company. Petitioner's interest, which consists of all of the preferred stock and 80% of the common stock, commenced in 1924. (R., Vol. I, 119, 120).

60 Broadway Corporation: A company whose only asset is the office building in New York where petitioner has its offices. Petitioner's investment, which consists of 100% of the capital stock, commenced in 1924. (R., Vol. I, 121, 122).

Miscellaneous investments covered by the order also include:

$120,000 of 5% Notes of Capital Transit Company;

4,700 shares of preferred stock of Illinois Iowa Power Company;

An investment of $400,000 in Milwaukee Light, Heat & Traction Company whose sole assets are real estate held for liquidation and stock of a small electric furnace enterprise. (R., Vol. IV, 1507-8).

It will be noted from the foregoing summary that petitioner's investments have been continuous and are of long standing. In making and retaining its investments in the Wisconsin, St. Louis, Cleveland, Washington, Detroit and California areas, petitioner has long followed a policy of diversification which has proved sound and of substantial value to its security holders. (R., Vol. VII, 2831-2; Vol. VIII, 3013-4).

Petitioner has at no time engaged in the business of managing the operations of its public utility operating subsidiaries, or selling them supplies, engineering services or the like. Its relationship has, essentially, been that of a large investor seeking to promote the sound development of his investment. Petitioner has consistently proclaimed and practiced the policy of local autonomy for each public utility operating company and has sought to use its voting power to assure good local management which has had the

genuine responsibility of conducting operations. Petitioner has furnished financial advice and assistance and sponsored the interchange of valuable operating information among the subsidiaries. (R., Vol. I, 100-1; Vol. VIII, 2903, 2922).

Petitioner has been conservatively financed and its financial practices have been sound. There has never been a default on any security issued by petitioner. (R., Vol. VII, 2815, 2869-70; Vol. VIII, 2892-3). Residential electric rates charged by petitioner's operating utility subsidiaries are far below the national average and among the lowest in the country. (Petitioner's Exhibits 124, 141, R., Vol. IX, 3284, 3310).

Petitioner itself has accepted the strictest and most comprehensive regulation by the Commission, while its utility subsidiaries have been completely regulated for many years by the respective State commissions.

SPECIFICATION OF ERRORS

The Circuit Court of Appeals erred:

1. In holding that Section 11(b)(1) of the Act is within the power of Congress to regulate commerce among the several States.

2. In holding that Section 11(b)(1) of the Act is not violative of the Fifth Amendment to the Constitution.

ARGUMENT

FIRST. SECTION 11(b)(1) OF THE ACT IS NOT WITHIN THE POWER OF CONGRESS TO REGULATE COMMERCE AMONG THE SEVERAL STATES. SINCE THE OWNERSHIP OF SECURITIES IS NOT COMMERCE, IT IS NOT SUBJECT TO THE COMMERCE POWER UNLESS BY REASON OF ITS EFFECT ON INTERSTATE COMMERCE, AND NO SUCH EFFECT HAS BEEN FOUND.

(a) Introduction and summary of argument.

In holding that Section 11(b)(1) is within the power of Congress under the commerce clause, the Circuit Court of Appeals has pressed the scope of that source of federal power far beyond anything yet decided by this Court and far beyond the limits clearly indicated by its decisions.

In contrast with all of the other enactments which this Court has upheld under the commerce clause, the statutory criteria governing the application of Section 11(b)(1) have nothing whatever to do with interstate commerce or effect thereon. That section requires divestment by a holding company (whether or not engaged in or having any relation to interstate commerce) of all securities owned by it in other corporations (whether or not those other corporations be engaged in or have any relation to interstate commerce), except the securities of corporations whose relations to the holding company meet certain statutory tests (which tests also have no relation to interstate commerce or effect thereon). It requires such divestment whether or not the prohibited ownership by holding companies of such securities has substantial, or any, effect on interstate commerce or tendency to obstruct the power of Congress over it.

Certainly the ownership by one corporation of securities in other corporations is not in itself commerce, interstate or intrastate. The right to own or retain the ownership of property is characteristically a matter governed by the laws of the several States, with which the federal government has no concern except as an incident to the due exercise of one of the granted powers.

It follows that an enactment proscribing such ownership may not be upheld as an exercise of the commerce power unless it falls within the rule of which the following extract from this Court's opinion in *United States* v. *Wrightwood Dairy Co.*, 315 U. S. 110, 119, is the most recent comprehensive formulation:

> "* * * The commerce power is not confined in its exercise to the regulation of commerce among the states. It extends to those activities intrastate which so affect interstate commerce, or the exertion of the power of Congress over it, as to make regulation of them appropriate means to the attainment of a legitimate end, the effective execution of the granted power to regulate interstate commerce. [Citing cases]. The power of Congress over interstate commerce is plenary and complete in itself, may be exercised to its utmost extent, and acknowledges no limitations other than are prescribed in the Constitution. *Gibbons* v. *Ogden*, 9 Wheat. 1, 196. It follows that no form of state activity can constitutionally thwart the regulatory power granted by the commerce clause to Congress. Hence the reach of that power extends to those intrastate activities which in a substantial way interfere with or obstruct the exercise of the granted power."

In *Wickard* v. *Filburn*, 87 L. Ed. 57, this Court repeated (p. 64) the above quotation and added (p. 65):

> "* * * But even if appellant's activity be local and though it may not be regarded as commerce, it may still, whatever its nature, be reached by Congress if it exerts a substantial economic effect on interstate commerce and this irrespective of whether such effect is what might at some earlier time have been defined as 'direct' or 'indirect'."

But this rule does not come into play at all unless the prerequisite condition of substantial effect on interstate commerce, or on the power of Congress to regulate it, satisfactorily appears. Where, as here, the connection between the forbidden conduct and interstate commerce is not self-evident, there must be a finding of the required effect by either a court, an administrative agency or Congress itself.

In *United States* v. *Darby,* 312 U. S. 100, this Court (pp. 119-121) divided the instances of congressional regulation "of activities intrastate which have a substantial effect on the [interstate] commerce or the exercise of the Congressional power over it" into three categories, as follows:

> "In such legislation Congress has sometimes left it to the courts to determine whether the intrastate activities have the prohibited effect on the commerce, as in the Sherman Act. It has sometimes left it to an administrative board or agency to determine whether the activities sought to be regulated or prohibited have such effect, as in the case of the Interstate Commerce Act, and the National Labor Relations Act, or whether they come within the statutory definition of the prohibited Act, as in the Federal Trade Commission Act. And sometimes Congress itself has said that a particular activity affects the commerce, as it did in the present Act [the Fair Labor Standards Act of 1938], the Safety Appliance

> Act and the Railway Labor Act. In passing on the validity of legislation of the class last mentioned the only function of courts is to determine whether the particular activity regulated or prohibited is within the reach of the federal power. See *United States* v. *Ferger, supra; Virginian Ry. Co.* v. *Federation,* 300 U. S. 515, 553."

The Act here in question does not fall within either of the first two categories. It does not leave the required determination to the courts. The only hearing on the facts for which it provides is one before the Commission; and it neither requires nor contemplates that the Commission shall make findings on the question whether interstate commerce is affected. The obvious reason it does not is that the prohibitions of Section 11(b)(1) apply regardless of any such effect. Congress did not intend that the Commission should make, either as to North American specifically or as to holding companies generally, findings which would be irrelevant under the statute which it was administering. The Commission in fact made no findings on the subject of any effect on interstate commerce of the prohibited security holdings. In all the 105 pages of its Findings and Opinion (R., Vol. I, 73-178) no such effect is so much as mentioned, and the term "interstate commerce" is not once used. Such occasional references as there are to the business or operations of some of the corporations being in more than one state are descriptive only.

The sole remaining question, therefore, is whether Congress has itself made a finding that the "particular activity" in question,—here the ownership of securities of other corporations,—affects interstate commerce to the required degree. Such a finding would in any event not be con-

clusive on the courts. If it were, the "function of courts" in passing on legislation in the third category would have been described as being only to see whether Congress had in words so found, not as being to "determine" whether the subject of the prohibition "is within the reach of the federal power". But a congressional finding of the required effect is a *sine qua non*. The Circuit Court of Appeals thought the declarations in Section 1 of the Act sufficient for this purpose. We submit that they are not.

We submit that neither the decisions above referred to, nor the other decisions in which this Court has applied the same rule, support this legislation. They concerned enactments which established, and provided machinery to carry out, policies for the regulation of interstate commerce and the prevention of burdens thereon. The regulation of intrastate matters was incidental, and only such as was required to make the interstate-commerce policies effective. The application of those statutes was limited, either by their express terms or by their administration, to acts which were done in the course of interstate commerce or were satisfactorily found to have a substantial adverse effect thereon.

But in the case of the Act here in question the very policy which it establishes is not a policy for interstate commerce. It is a policy supposed to promote general public welfare, which Congress has sought to give an appearance of constitutional foundation by reference to the fact that some of those subject to it are engaged in interstate commerce, or in activities of a wholly unspecified character which affect interstate commerce.

We proceed now to develop more fully the several propositions which we have stated summarily above.

(b) Section 11(b)(1) applies regardless of any relation of the prohibited property ownerships to interstate commerce or of any effect thereon.

(1) *The statutory definitions of terms.*

The requirement by Section 11(b)(1) of limitation of the operations of the holding company system to "a single integrated public-utility system", with the qualifications hereafter noted, and to "such other businesses as are reasonably incidental, or economically necessary or appropriate to the operations of such integrated public-utility system", applies to "each registered holding company and each subsidiary company thereof". Passing, for the moment, the alleged significance of the adjective "registered", the definitions of the above-quoted terms, in Section 2 of the Act, show clearly that the classification of those subject to the requirement of divestment does not purport to be based upon participation in or effect upon interstate commerce.

The term "holding company" is defined (Section 2(a)(7)) as including (A) "any company which directly or indirectly owns, controls or holds with power to vote 10 per centum or more of the outstanding voting securities of a public-utility company * * *"; and (B) "any person which the Commission determines * * * directly or indirectly to exercise * * * such a controlling influence over the management or policies of any public-utility or holding company as to make it necessary or appropriate in the public interest or for the protection of investors or consumers that such person be subject to the obligations, duties and liabilities imposed in this title upon holding companies".

Under Section 2(a)(5) a "public utility company" means either an "electric utility company" or a "gas utility

company" and the definition of those terms in Sections 2(a)(3) and 2(a)(4), respectively, import no test in any way related to interstate commerce. The definition of the term "subsidiary company" in Section 2(a)(8) is the counterpart of the definition of "holding company", above quoted, and is no more dependent upon engagement in or effect on interstate commerce.

Section 2(a)(7), (3), (4) and (8) contain provisions that the Commission, upon application, shall by order declare that a company is not a "holding company", "electric utility company", "gas utility company" or "subsidiary company", respectively, if certain specified conditions are met; but those conditions do not relate to engagement in or effect on interstate commerce. The only one which might give even a superficial appearance of attaching significance to such considerations is Clause (B) of Section 2(a)(3) which states as one of the requirements for such an order that "such company is one operating within a single State". But that is only one of several requirements, and a reading of the clause as a whole shows clearly that the fact that a company's operations are purely intrastate is not a sufficient ground for exclusion from the definition of "electric utility company".

Not only is the requirement of divestment unaffected by whether either the holding company or the corporations whose securities it holds do or do not bear any relation to interstate commerce, but the tests which guide the decision whether certain properties may or may not be retained thereunder are wholly unrelated to interstate-commerce factors.

Unless one or more of the qualifications of Section 11(b)(1) are satisfied, the holding company is to be limited

to a single "integrated public-utility system", a term that is defined in Section 2(a)(29) without any reference to interstate-commerce standards. By that provision "integrated public-utility system" means, as applied to "electric utility companies" (and the definition as applied to "gas utility companies" is so nearly the same as not to require separate quotation):

> "a system consisting of one or more units of generating plants and/or transmission lines and/or distributing facilities, whose utility assets, whether owned by one or more electric utility companies, are physically interconnected or capable of physical interconnection and which under normal conditions may be economically operated as a single interconnected and coordinated system confined in its operations to a single area or region, in one or more States, not so large as to impair (considering the state of the art and the area or region affected) the advantages of localized management, efficient operation, and the effectiveness of regulation;"

Under that definition several electric companies located in different states and physically interconnected, thus implying interstate commerce, would be retainable; whereas if they were not physically interconnected or capable of interconnection, they would not be retainable even if they were all located in a single state and no interstate commerce were involved.

The qualifications, above referred to, are expressed in Clauses (A), (B) and (C) which permit the continuance of control of one or more additional "integrated public-utility systems" if the Commission finds the facts required by all three. And those facts have no relation to interstate commerce or any effect thereon.

Clause (A) requires that such additional systems "cannot be operated * * * without the loss of substantial economies". As construed by the Commission and the court below (R., Vol. X, 4006) "substantial economies" means "important economies and not merely something more than nominal". Thus, even if retention of the additional system be more, rather than less, economical, it must still be disposed of if the economies are not "important". Clause (B) requires that "all such additional systems are located in one State, or in adjoining States, or in a contiguous foreign country". Under this test obviously the question whether the additional system may be retained or must be disposed of depends not at all on whether its operations are interstate or intrastate. Clause (C) requires that the continued combination of such systems is "not so large * * * as to impair the advantages of localized management, efficient operation, or the effectiveness of regulation". Here again the test has nothing to do with interstate commerce. Several disconnected public utility systems all located and operating wholly within a single state such as, for example, New York, Pennsylvania or Texas might fail to meet this requirement, whereas another system located in and operating between the states of, say, Maine, New Hampshire and Vermont would completely satisfy it.

Again, Section 11(b)(1) permits the retention of such "other businesses" as are "reasonably incidental, or economically necessary or appropriate to the operations" of the integrated public utility system which is retained. This test equally has no relation to interstate-commerce factors, as is made even clearer by the amplification that this means "necessary or appropriate in the public interest or for the

protection of investors or consumers and not detrimental to the proper functioning of such system or systems".

On the face of Section 11(b)(1) itself every company in which a holding company owned securities might be operating wholly intrastate and in such a manner as would have no effect upon interstate commerce, and still it would be required to divest itself of all of them, except those representing a "single integrated public-utility system", provided it held as much as 10% of the voting stock of any company which was a utility company. In the case of the petitioner itself, the order of the Commission permits it to retain as its single integrated public utility system the interstate system of the Union Electric Company of Missouri, but requires it to divest itself of those of the intrastate and state-regulated utility enterprises of the Cleveland Electric Illuminating Company, Pacific Gas and Electric Company and the Detroit Edison Company. Similarly, it is required to divest itself of North American Utilities Corporation which is the vehicle through which some surplus funds have been invested in some miscellaneous market securities, and the operation and investments of which in no way impinge upon interstate commerce. The Commission has reserved decision and so asserts the power to compel divestment of the stock of 60 Broadway Building Corporation, the owner of a New York office building.

(2) *The alleged significance of "registration."*

The Commission contended below that the definitions above referred to are without significance because Section 11(b)(1) applies only to "registered" holding companies, and that no holding companies are required to register ex-

cept those which are "interstate in nature". We submit that this argument is demonstrably incorrect. The requirements for registration are set forth in Section 4 of the Act. Section 5 simply prescribes the mechanics of such registration.

Section 4(a) makes it unlawful for a holding company, directly or indirectly, to do any one of six described things unless it registers under Section 5. These things are enumerated in paragraph (1) to (6). Of these (1) and (5) deal with activities in interstate commerce. But (2), (3) and (4) do not and paragraph (6) forbids the holding company "to own, control, or hold with power to vote, any security of any subsidiary company thereof that does any of the acts enumerated in paragraphs (1) to (5) inclusive, * * *". Paragraphs (2), (3) and (4) respectively cover: (2) the entering into of any service, sales or construction contract; (3) making any public offering of any security of the holding company or any subsidiary or affiliate thereof; or (4) acquiring or negotiating for the acquisition of any security or utility assets of any subsidiary; if only these things are done "by use of the mails or any means or instrumentality of interstate commerce".

Bearing in mind the definition of "subsidiary company" in Section 2(a)(8), this means that a holding company was obliged to register if any single public utility company (though operating wholly intrastate) of which it owned as much as 10% of the voting stock, used the mails (even if for communication wholly within a single state where it was incorporated and did business) to make any service, sales or construction contract or to sell any security or acquire any utility asset; and this regardless of the character of the holding company's own operations or the character of any of the other corporations in which it held securities.

It is thus idle to contend that the obligation to register under Sections 4 and 5 has any tendency to show the necessary relation to interstate commerce. And this is made all the clearer by Section 4(b) which requires registration by "Every holding company which has outstanding any security any of which, by use of the mails or any means or instrumentality of interstate commerce, has been distributed or made the subject of a public offering subsequent to January 1, 1925, and any of which security is owned or held on October 1, 1935 * * * by persons not resident in the State in which such holding company is organized * * *".

Electric Bond & Share Company v. *Securities and Exchange Commission*, 303 U. S. 419, (which we discuss *infra* pp. 52-54) is a sufficient authority that the fact of registration is not enough to make the provisions of Section 11 constitutionally applicable. The defendants in that case were held to be obliged to register under Sections 4 and 5. But, as we point out hereafter, the opinion plainly implies that their right to contest the constitutionality of the other sections of the Act, and especially Section 11(b)(1), would not, because of that, be futile.

(3) *The "exemption" provisions of Section 3.*

The Circuit Court of Appeals relied on Section 3 as support for its conclusion that petitioner's activities and those of its subsidiaries brought it within the class of holding companies which might be subject to the commerce power. It said (R., Vol. X, 4008):

> "Section 3 provides administrative procedure by which a holding company can obtain exemption from any provision of the Act if it and its subsidiaries are predominantly intrastate in character."

and it pointed out that petitioner did not avail itself of this administrative remedy and does not assert that it is entitled to exemption.

We submit that the Circuit Court of Appeals was plainly in error in its reliance on Section 3.

That section in the part here material, provides:

> "SEC. 3. (a) The Commission, by rules and regulations upon its own motion, or by order upon application, shall exempt any holding company, and every subsidiary company thereof as such, from any provision or provisions of this title, **unless and except insofar as it finds the exemption detrimental to the public interest or the interest of investors or consumers,* if—
>
> (1) such holding company, and every subsidiary company thereof which is a public-utility company from which such holding company derives, directly or indirectly, any material part of its income, are predominantly intrastate in character *and* carry on their business substantially in a *single State in which such holding company and every such subsidiary company thereof are organized;*"

The remaining paragraphs of Section 3(a) are not here material. Paragraph (2) makes eligible for exemption a holding company which is "predominantly" a public utility company whose operations do not extend beyond the state in which it is organized *and* states contiguous thereto; paragraph (3) a company which is only "incidentally" a holding company and is principally engaged in other business, plus other requirements here of no importance; paragraph (4) a company which is only "temporarily" a hold-

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*All italics in quotations in this brief are supplied unless otherwise noted.

ing company; and paragraph (5) one with only foreign public-utility subsidiaries.

Reverting to the material provisions of Section 3(a)(1), it is apparent that the test of exemption is not, as stated by the Circuit Court of Appeals, whether the holding company and its subsidiaries "are predominantly intrastate in character".

For a holding company even to qualify for consideration upon an application for exemption, not only must it and every one of its public utility subsidiaries be "predominantly intrastate in character", but also it and every such subsidiary must "carry on their business substantially in a single State in which such holding company and every such subsidiary company thereof are organized".

If petitioner, a New Jersey corporation, held nothing but a 10% voting stock interest in each of two public-utility companies, one located in Albany, New York, and one in Rochester, New York, each operating wholly intrastate, and having no effect on interstate commerce, it would not even be eligible to make application for exemption under Section 3(a)(1). Certainly the fact that petitioner was incorporated in New Jersey rather than New York would not make the system above supposed any the less "predominantly intrastate in character." North American's business office is in New York City. But suppose it were in Newark, New Jersey, instead. That would not make the system interstate in character. It may be that officials and employees would have to use interstate trains or interstate mails or telegraph or telephone lines to maintain contact with the operating subsidiaries. But so does any company whose main office, or any individual whose residence, is in another state from that in which some of its or his business operations are

conducted. No case has suggested that by so doing such a company, or such an individual, subjects all its or his activities to regulation, or its or his properties to divestment, at the hands of the federal government acting under the commerce power.

But suppose that, in the hypothetical case above described, the operating public utility subsidiaries all carried on their business and were incorporated in New Jersey, where petitioner also was organized. Petitioner would then be eligible to make an application for exemption under Section 3(a)(1). But the Commission would still be obliged to deny the exemption if it found that it would be "detrimental to the public interest or to the interest of investors or consumers", because that phrase qualifies the permitted exemption provided in all five of the paragraphs which follow. And this express test of whether the application for exemption should be granted or denied has nothing to do with participation by either the holding company or any of its subsidiaries in interstate commerce, or the presence or absence of any effect, substantial or otherwise, of any of the acts of any of them upon interstate commerce.

The Circuit Court of Appeals was therefore clearly in error in its view of the intendments of Section 3. As to the significance which the Court below attached to petitioner's failure to apply for exemption, it is enough to say that it was not eligible even to make such an application for the sufficient reason (which is not an interstate-commerce reason) that its subsidiaries were incorporated in states other than that in which it was organized (see Appendix A to Findings and Opinion of Commission, R., Vol. I, 179-183).

(c) The findings of the Commission show that its order is not grounded at all upon any relation of the prohibited property ownerships to interstate commerce, or upon any effect thereon.

We have hitherto pointed out that the Findings and Opinion of the Commission (R., Vol. I, 73-178) from beginning to end contain not a single reference to interstate commerce. But the light thrown by the Findings on the basis of the Commission's order of divestment goes beyond that fact. They show affirmatively that the considerations upon which that order was predicated have nothing whatever to do with interstate commerce or any effect upon it of petitioner's ownership of the securities of its subsidiaries, or, indeed, of anything done by petitioner or any of its subsidiaries.

The Findings and Opinion describe (R., Vol. I, 84-88) the system composed of petitioner and its subsidiaries, and the reasons (*id.* 88-93) for the Commission's choice of the system headed by Union Electric Company of Missouri as the "single integrated public-utility system" retainable by petitioner, none of which reasons relate to interstate commerce or any effect thereon. The Commission then discusses (*id.* pp. 93-110) whether, under the standards specified in Clauses (A), (B) and (C) of Section 11(b)(1), any of the other systems controlled by petitioner, which it found to be also "integrated public-utility systems", were retainable by petitioner as "additional" systems, and finds, for reasons germane to the requirements of those clauses but having nothing to do with interstate commerce, that none satisfied such requirements. It discusses (*id.* pp. 110-113) whether any of the gas systems may be retained

under the standards of Clauses (A) and (C) and concludes that it has not sufficient data to reach a decision on that subject. It discusses (*id.* pp. 113-131) whether any of the non-utility companies which were subsidiaries of petitioner, either directly or through the system of Union Electric Company of Missouri, may be retained under the "other businesses" proviso of Section 11(b)(1); and again the reasons which dictate permission or refusal of such retentions relate in no way to interstate commerce or any effect of such retention thereon.

The balance of the Findings and Opinion (*id.* pp. 131-170), up to the summary of conclusions and nature of the order (*id.* pp. 170-178), concern the application of the requirements of Section 11(b)(1) to petitioner's subsidiaries which are themselves registered holding companies, and are not here involved.

The Findings and Opinion simply find such facts and state such conclusions as were required, in the Commission's judgment, to apply the criteria of Section 11(b)(1) to petitioner and its subsidiary companies. Since the terms of that section did not make any relation on their part to interstate commerce a relevant factor, the Commission referred to no such consideration in carrying out those terms.

(d) The declarations by Congress in Section 1 of the Act do not constitute a legislative finding that petitioner's ownership of the securities of which the order requires divestment has any effect upon interstate commerce.

The Circuit Court of Appeals thought (R., Vol. X, 4008) that the necessity for findings by the Commission that petitioner's ownership of the securities, divestment of which is required by its Order, affected interstate commerce was

obviated by Section 1, which it said "expounds the policy underlying the necessity for control of holding companies as defined in Section 2(a)(7)",—in other words, that the Act was a valid exercise of power of the third category stated in the *Darby* case (*supra*, pp. 12-13).

We submit that this conclusion was erroneous. The full text of Section 1, which is headed "Necessity for Control of Holding Companies", is as follows:

> "SECTION 1. (a) Public-utility holding companies and their subsidiary companies are affected with a *national public interest* in that, among other things, (1) their securities are widely marketed and distributed by means of the mails and instrumentalities of interstate commerce and are sold to a large number of investors in different States; (2) their service, sales, construction, and other contracts and arrangements are *often* made and performed by means of the mails and instrumentalities of interstate commerce; (3) their subsidiary public-utility companies *often* sell and transport gas and electric energy by the use of means and instrumentalities of interstate commerce; (4) their practices in respect of and control over subsidiary companies *often materially affect the interstate commerce in which those companies engage;* (5) their activities extending over many States are not susceptible of effective control by any State and make difficult, if not impossible, effective State regulation of public-utility companies.
>
> "(b) Upon the basis of facts disclosed by the reports of the Federal Trade Commission made pursuant to S. Res. 83 (Seventieth Congress, first session), the reports of the Committee on Interstate and Foreign Commerce, House of Representatives, made pursuant to H. Res. 59 (Seventy-

second Congress, first session) and H. J. Res. 572 (Seventy-second Congress, second session) and otherwise disclosed and ascertained, it is hereby declared that the *national public interest*, the *interest of investors* in the securities of holding companies and their subsidiary companies and affiliates, and the *interest of consumers* of electric energy and natural and manufactured gas, are *or may be* adversely affected—

(1) *when* such investors cannot obtain the information necessary to appraise the financial position or earning power of the issuers, because of the absence of uniform standard accounts; *when* such securities are issued without the approval or consent of the States having jurisdiction over subsidiary public-utility companies; *when* such securities are issued upon the basis of fictitious or unsound asset values having no fair relation to the sums invested in or the earning capacity of the properties and upon the basis of paper profits from intercompany transactions, or in anticipation of excessive revenues from subsidiary public-utility companies; *when* such securities are issued by a subsidiary public-utility company under circumstances which subject such company to the burden of supporting an overcapitalized structure and tend to prevent voluntary rate reductions;

(2) *when* subsidiary public-utility companies are subjected to excessive charges for services, construction work, equipment, and materials, or enter into transactions in which evils result from an absence of arm's-length bargaining or from restraint of free and independent competition; *when* service, management, construction, and other contracts involve the allocation of charges among subsidiary public-utility companies in

different States so as to present problems of regulation which cannot be dealt with effectively by the States;

(3) *when* control of subsidiary public-utility companies affects the accounting practices and rate, dividend, and other policies of such companies so as to complicate and obstruct State regulation of such companies, or *when* control of such companies is exerted through disproportionately small investment;

(4) *when* the growth and extension of holding companies bears no relation to economy of management and operation or the integration and coordination of related operating properties; or

(5) *when* in any other respect there is lack of economy of management and operation of public-utility companies or lack of efficiency and adequacy of service rendered by such companies, or lack of effective public regulation, or lack of economies in the raising of capital.

"(c) *When* abuses of the character above enumerated *become* persistent and wide-spread the holding company *becomes* an agency which, *unless regulated*, is injurious *to investors, consumers, and the general public*; and it is hereby declared to be the policy of this title, in accordance with which policy all the provisions of this title shall be interpreted, to *meet the problems and eliminate the evils as enumerated in this section, connected with public-utility holding companies which are engaged in interstate commerce or in activities which directly affect or burden interstate commerce;* and for the purpose of effectuating such policy to compel the simplification of public-utility holding-company systems and the elimination therefrom of properties detrimental to

> the proper functioning of such systems, and to provide as soon as practicable for the elimination of public-utility holding companies except as otherwise expressly provided in this title."

Interstate commerce is referred to only in subdivisions (a) and (c) and none of the references therein are anything like a finding or declaration of policy adequate to support the provisions of Section 11(b)(1).

Subdivision (a) says that public utility holding companies and their subsidiaries are affected with a "national public interest" for five reasons correspondingly numbered.

Reasons Nos. (1) and (2) have no materiality. Corporations do not become subject to regulation by Congress in all their activities and interests just because they market securities or make or perform contracts by means of the mails or instrumentalities of interstate commerce. That fact may perhaps make them subject to regulation with respect to security transactions, as Sections 6 and 7 of the present Act do, or make them subject to regulation with respect to their contracts so made or performed, as is provided in Section 13 of the present Act with respect to service, sales and construction contracts. But that has nothing to do with prohibition of their continued holding of securities or other property validly acquired under state law.

Reasons (3) and (5) may similarly be disregarded. The fact that (3) operating public utility companies "often" sell and transport gas and electric energy by use of means and instrumentalities of interstate commerce is irrelevant, because Section 11(b)(1) by its terms applies equally to holding companies none of whose subsidiaries do so. And as to reason (5), Section 11(b)(1) requires the divestment of securities, even though the activities of the holding com-

pany and its subsidiaries do not extend over many states and are entirely susceptible to effective state regulation.

The only reason, therefore, which has any semblance of relevance is (4) which states that the "practices" of holding companies in respect of and control over subsidiary companies "often" materially affect the interstate commerce in which those companies engage. Passing the consideration already adverted to that Section 11(b)(1) applies even though neither the holding company nor any subsidiary is engaged in interstate commerce, this declaration is, for several reasons, wholly insufficient as a finding to support an order under Section 11(b)(1).

Under the *Darby* case (*supra*, pp. 12-13) the function of the court is to determine whether "the particular activity" prohibited is within the reach of the federal power. The particular question here is of the power of Congress to prohibit petitioner's ownership of properties. The word "practices" is scarcely an apt way to describe such a condition. Section 1 purports to state the necessity of all the ensuing operative provisions of the Act. By far the major part thereof relate to regulation of future conduct. Security transactions are respectively regulated by Sections 6 and 7; acquisitions of interest in electric and gas utility companies by Section 8; acquisitions of securities and utility assets and other interests by Section 9; inter-company loans, dividends, security transactions, sale of utility assets, proxies and other transactions by Section 12; and service, sales and construction contracts by Section 13. The word "practices" in Section 1(a)(4) relates far more naturally to the matters corrected by the prospective regulatory provisions than it does to the status of property ownership.

Another fatal defect in this fourth reason, as support for the sweeping proscriptions of Section 11(b)(1), lies in the word "often". Its necessary implication is that the material effect on interstate commerce stated to result even from the "practices" does not exist in all, or even the generality of, cases. That would seem to require that some provision be made for a finding, either by a court in analogy to the Sherman Act or by an administrative agency, whether that reason applies to the particular holding company against which a divestment order is contemplated. But, as we have already pointed out, the Act makes no such provision.

This defect is accentuated by the single reference to interstate commerce in subdivision (c). It is there declared to be the policy of the Act to meet the problems and eliminate the evils connected with "public utility holding companies which are engaged in interstate commerce or in activities which directly affect or burden interstate commerce". That amounts to saying that it is not the policy of the Act to meet the problems and eliminate the evils connected with holding companies which are not engaged in interstate commerce or in activities which directly affect or burden interstate commerce. The "which" in subdivision (c) corresponds to the "often" in subdivision (a). It does not support the concluding clause of (c) stating a policy to compel the simplification of public utility holding systems generally, the elimination therefrom of properties detrimental to the proper functioning thereof and "to provide as soon as practicable for the elimination of public-utility holding companies except as otherwise expressly provided in this title". Still less does it support the terms of Section 11(b)(1), requiring indiscriminately

the divestment of properties by a public utility holding company whether or not "engaged in interstate commerce or in activities which directly affect or burden interstate commerce".

There is no justification for attempting to enlarge by construction the limited scope of the legislative finding in Section 1. That the phraseology above quoted was not inadvertent clearly appears from the legislative history. The legislation was initiated by substantially identical bills simultaneously introduced in the Senate by Senator Wheeler (S. 1725, 74th Congress, First Session) and in the House by Congressman Rayburn (H.R. 5423, 74th Congress, First Session) on February 6, 1935. Section 1(a)(4) of H.R. 5423 made an unqualified finding as follows (with which Section 2(a)(4) of S. 1725 is substantially identical):

> "Section 1. (a). Public utility holding companies and their subsidiary companies are affected with a national public interest in that, among other things,* * *
>
> 4. Their practices and control over subsidiary companies materially affect the interstate commerce in which those companies engage".

Thereafter these bills were referred to committees and after several months of hearings and investigations the Senate passed a bill (S. 2796, 74th Congress, First Session) on June 11, 1935 which, with amendments, was passed by the House on July 2, 1935. This bill then went to conference and was enacted on August 22, 1935 in the form reported by the Conference Committee.

Section 1(a)(4) in S. 2796 as passed by the Senate and the House on June 11 and July 2, 1935 respectively

was in the same form as it now appears in the bill as enacted. The introduction of the word "often" therefore followed the months of consideration by Congress in which the facts relating to the industry were given prolonged consideration. It is manifest that Congress changed the unqualified language of the bills as introduced to the present wording deliberately because it found that the latter was the strongest statement that would square with the facts.

A legislative finding that an effect on interstate commerce sufficient to justify prohibitory legislation exists in some cases cannot support a legislative prohibition which applies in all cases. True, subdivision (b) enumerates in five paragraphs certain classes of conditions, which are referred to in (c) as "abuses" or "evils", but the word "when", with which these paragraphs are introduced, clearly implies that such conditions are not general. And, more importantly, there is no statement therein that interstate commerce is affected by these conditions even "when" they occur; rather the statement is that the interest of "investors" and "consumers" are "or may be" adversely affected. As well might Congress say that because corporations generally, or individuals, "often" engage in interstate commerce or in unspecified activities which directly affect or burden interstate commerce, and that some of them have been guilty of abuses in certain described phases of their operations, all corporations and individuals may be prohibited from owning property of certain kinds or in certain locations, without any finding that by such ownership interstate commerce is affected substantially or at all.

(e) The decisions of this Court upholding regulation of conduct which was not commerce or was in intrastate commerce themselves show the absence of foundation for the legislation embodied in Section 11(b)(1).

The power conferred on Congress by Article I, section 8, clause 3 of the Constitution is to regulate "commerce", meaning "traffic" or "intercourse", among the several states; and "regulate" means "to prescribe the rule by which commerce is to be governed". *Gibbons* v. *Ogden*, 9 Wheat. 1, 189, 196. Where Congress prescribes such a rule for interstate commerce, it has plenary incidental power to make that rule effective by regulating or prohibiting things which would otherwise substantially interfere with its operation. But it is still interstate commerce which is the subject of the permitted regulation.

It follows that the necessary foundations for control by Congress of conduct which is not commerce or is intrastate commerce are (1) the prescribing of a rule for interstate commerce, and (2) a finding that the conduct sought to be reached has such an effect on interstate commerce that without its control the rule would be ineffective. It is not enough to support laws of this class that the person whose non-interstate-commerce conduct is sought to be reached is in other matters engaged in interstate commerce.

> "* * * It is the effect upon the interstate commerce or its regulation, regardless of the particular form which the competition may take, which is the test of federal power." *United States* v. *Wrightwood Dairy Co.*, 315 U. S. 110, 120.

See also *National Labor Relations Board* v. *Jones & Laughlin Steel Corp.*, 301 U. S. 1, 32, 38; *United States* v. *Darby*, 312 U. S. 100, 121.

The enactments of this class which this Court has upheld have recognized the necessity for the two foundations which we have above stated, and the decisions of this Court upholding them clearly indicate that in their absence power under the commerce clause does not exist. We have already shown the absence of such foundations for Section 11(b)(1).

Our discussion of the cases may conveniently commence with *United States* v. *Darby, supra.* That case involved the provisions of the Fair Labor Standards Act of 1938 (52 Stat. 1060) prohibiting the shipment in interstate commerce of commodities manufactured by employees whose wages were less than the prescribed minimum or whose weekly hours of labor were greater than the prescribed maximum; and prohibiting the employment of workmen in the production of goods "for interstate commerce" at other than prescribed wages and hours. The latter provision was sustained as a regulation of intrastate activities which had a substantial effect upon interstate commerce itself. The unqualified congressional finding in that statute is in marked contrast to the vague and equivocal declaration in the Act here in question. Section 2(a) of the Fair Labor Standards Act declared:

> "The Congress hereby finds that the existence, in industries engaged in commerce [defined in Section 3(b) to cover interstate and foreign commerce] or in the production of goods for commerce, of labor conditions detrimental to the maintenance of the minimum standard of living necessary for health, efficiency, and general well-being of workers (1) causes commerce and the channels and instrumentalities of commerce to be used to spread and perpetuate such labor conditions among the workers

> of the several States; (2) burdens commerce and the free flow of goods in commerce; (3) constitutes an unfair method of competition in commerce; (4) leads to labor disputes burdening and obstructing commerce and the free flow of goods in commerce; and (5) interferes with the orderly and fair marketing of goods in commerce."

To support its conclusion that the evil inherent in substandard labor conditions "so burdens" and "obstructs" interstate commerce as to be within the reach of federal power, this Court relied particularly (312 U. S., p. 119) upon its prior decisions upholding the National Labor Relations Act of 1935 (49 Stat. 449). *National Labor Relations Board* v. *Jones & Laughlin Steel Corp.*, 301 U. S. 1, 38, 40; *Santa Cruz Fruit Packing Co.* v. *National Labor Relations Board*, 303 U. S. 453, 466; *National Labor Relations Board* v. *Fainblatt*, 306 U. S. 601, 604.

In the *Jones & Laughlin* case, this Court (301 U. S., p. 29) took note of the argument of the respondent that the National Labor Relations Act involved "an attempt to regulate all industry", that the references in the statute to interstate and foreign commerce were colorable at best, and that the statute was not "a true regulation of such commerce or of matters which directly affect it but on the contrary has the fundamental object of placing under the compulsory supervision of the federal government all industrial labor relations within the nation". This Court, after saying (pp. 29-30) that if this conception of terms, intent and consequent inseparability were sound the Act would necessarily fall, continued (p. 30):

> "But we are not at liberty to deny effect to specific provisions, which Congress has constitu-

> tional power to enact, by superimposing upon them inferences from general legislative declarations of an ambiguous character, even if found in the same statute. The cardinal principle of statutory construction is to save and not to destroy. We have repeatedly held that as between two possible interpretations of a statute, by one of which it would be unconstitutional and by the other valid, our plain duty is to adopt that which will save the act. Even to avoid a serious doubt the rule is the same. [Citing cases.]
>
> "We think it clear that the National Labor Relations Act may be construed so as to operate within the sphere of constitutional authority."

The Court then referred (pp. 30-31) to the jurisdiction of the Board, as conferred by Section 10(a), to prevent any person from engaging in any unfair labor practice "affecting commerce"; to the statutory definition of "commerce" as meaning interstate and foreign commerce; and to the following statutory definition of the term "affecting commerce":

> " 'The term "affecting commerce" means in commerce, or burdening or obstructing commerce or the free flow of commerce, or having led or tending to lead to a labor dispute burdening or obstructing commerce or the free flow of commerce.' "

The Court then said:

> "This definition is one of exclusion as well as inclusion. The grant of authority to the Board does not purport to extend to the relationship between all industrial employees and employers. Its terms do not impose collective bargaining upon all industry regardless of effects upon interstate or foreign com-

> merce. It purports to reach only what may be deemed to burden or obstruct that commerce and, thus qualified, it must be construed as contemplating the exercise of control within constitutional bounds." (p. 31)
>
> * * *
>
> "* * * Whether or not particular action does affect commerce in such a close and intimate fashion as to be subject to federal control, and hence to lie within the authority conferred upon the Board, is left by the statute to be determined as individual cases arise." (p. 32)

There was in that case an exceedingly comprehensive and unequivocal legislative finding of substantial effect on interstate commerce and declaration of policy to prevent it contained in Section 1, quoted in a footnote to the Court's opinion (301 U. S., p. 23). Nonetheless, this Court, in the sentence immediately following the last-quoted passage, said:

> "We are thus to inquire whether in the instant case the constitutional boundary has been passed."

After an exposition of the fundamental principles underlying the constitutional question, this Court went on (pp. 41-43) to find for itself that the effect upon interstate commerce of the "industrial strife" which the statute was aimed to prevent was by no means "indirect or remote" but would be "immediate" and might be "catastrophic".

In *Santa Cruz Fruit Packing Co.* v. *National Labor Relations Board*, 303 U. S. 453, at page 466 (the page particularly referred to in this Court's citation of the case in *United States* v. *Darby*), this Court said:

> "*Third.* It is also clear that where federal control is sought to be exercised over activities which separately considered are intrastate, it must appear that there is a close and substantial relation to interstate commerce in order to justify the federal intervention for its protection. However difficult in application, this principle is essential to the maintenance of our constitutional system. The subject of federal power is still 'commerce,' and not all commerce but commerce with foreign nations and among the several States. The expansion of enterprise has vastly increased the interests of interstate commerce but the constitutional differentiation still obtains."

For the proposition stated in the last sentence of the quotation from *United States* v. *Darby*, (*supra*, pp. 12-13) this Court cited two cases: *United States* v. *Ferger*, 250 U. S. 199, and *Virginian Ry. Co.* v. *Federation*, 300 U. S. 515, 553. The *Ferger* case involved a statute making criminal the uttering of spurious bills of lading purporting to be used in interstate commerce. This Court resorted (p. 204) to common knowledge, of which it might take judicial notice, that bills of lading for the movement of interstate commerce are instrumentalities of that commerce. The *Virginian Railway* case involved the constitutionality of the Railway Labor Act, requiring a carrier to "treat with" those certified by the Mediation Board as representatives of a craft or class, as applied to certain "back shop" employees who, it was asserted, were solely in intrastate commerce. But this Court (p. 556) referred to the findings of the courts below that "interruption by strikes of the back shop employees, if more than temporary, would seriously cripple petitioner's interstate transportation". On the question of constitutionality

it said (p. 553, the page particularly referred to in this Court's opinion in the *Darby* case) that the judgment of Congress "supported as it is by *our* long experience with industrial disputes, and the history of railroad labor relations, to which we have referred, is not open to review here". Beginning at the bottom of that page is a long footnote summarizing the history of railway labor relations, to which the Court referred.

This Court's opinion in the *Virginian Railway* case also points to another distinction which is significant in the instant case. Referring to the *Employers' Liability Cases*, 207 U. S. 463, the Court said (p. 557):

> "* * * Whatever else may be said of that pronouncement, it is obvious that the commerce power is as much dependent upon the *type of regulation* as its subject matter. It is enough for present purposes that experience has shown that the failure to settle, by peaceful means, the grievances of railroad employees with respect to rates of pay, rules or working conditions, is far more likely to hinder interstate commerce than the failure to compensate workers who have suffered injury in the course of their employment."

In all of these cases there was clear factual basis for the view that regulation of the "particular" intrastate matter involved was necessary to make effective a rule established by Congress for interstate transactions.

The same was true with respect to the Agricultural Marketing Act of 1937 (50 Stat. 246) the enforcement of which was upheld in different aspects by this Court in *United States* v. *Rock Royal Co-Operative Inc.*, 307 U. S. 533 and *United States* v. *Wrightwood Dairy Co.*, 315 U. S. 110 (*supra*). That statute provided that

the Secretary of Agriculture should regulate agricultural commodities or products

> "in the current of interstate or foreign commerce, or which directly burdens, obstructs or affects" that commerce.

We have already shown that the provisions of Section 11(b)(1) of the Act here in question are not susceptible of a construction which would so limit them. In the *Rock Royal Co-Operative* case this Court said as to the question of local milk (307 U. S. p. 569):

> "Where local and foreign milk alike are drawn into a general plan for protecting the interstate commerce in the commodity from the interferences, burdens and obstructions, arising from excessive surplus and the social and sanitary evils of low values, the power of Congress extends also to the local sales."

In the *Wrightwood Dairy Company* case, *supra*, the local milk of the respondent was sold in Illinois in competition with the interstate milk, and it was found that 60% of the milk sold in the marketing area was produced in Illinois and 40% in neighboring states. The factual basis for the regulation with respect to intrastate milk was that "by reason of its competition with the handling of the interstate milk" it "so affects that commerce as substantially to interfere with its regulation by Congress (315 U. S. pp. 125-126).

This Court's most recent decision on the subject (*Wickard v. Filburn*, 87 L. Ed. 57), upon which the Circuit Court of Appeals particularly relied (R., Vol. X, 4009), is simply another application of the same doctrine. The Agri-

cultural Adjustment Act of 1938 (52 Stat. 31), and the amendment thereof of May 26, 1941 (55 Stat. 203) there involved, was of a wholly different character from the Public Utility Holding Company Act here in question. Its purpose, as declared in its title, was to provide for the conservation of national soil resources "and to provide an adequate and balanced flow of agricultural commodities in interstate and foreign commerce". The policy which it declared and the provisions enacted to carry it out were directly concerned with the fostering of interstate commerce in vital agricultural commodities. In the language of the declaration of policy to the entire Act (Section 2, 52 Stat. p. 31) it was

> "to regulate interstate and foreign commerce in cotton, wheat, corn, tobacco, and rice to the extent necessary to provide an orderly, adequate, and balanced flow of such commodities in interstate and foreign commerce through storage of reserve supplies, loans, marketing quotas, assisting farmers to obtain, insofar as practicable, parity prices for such commodities and parity of income, and assisting consumers to obtain an adequate and steady supply of such commodities at fair prices."

Title III of the Act dealt particularly with the means above enumerated, particularly marketing quotas, with respect to several enumerated commodities. The legislative findings regarding wheat appear in Section 331, which reads as follows (52 Stat. pp. 52-53):

> "Sec. 331. Wheat is a basic source of food for the Nation, is produced throughout the United States by more than a million farmers, is sold on the country-wide market and, as wheat or flour, flows almost

entirely through instrumentalities of interstate and foreign commerce from producers to consumers.

Abnormally excessive and abnormally deficient supplies of wheat on the country-wide market acutely and directly affect, burden, and obstruct interstate and foreign commerce. Abnormally excessive supplies overtax the facilities of interstate and foreign transportation, congest terminal markets and milling centers in the flow of wheat from producers to consumers, depress the price of wheat in interstate and foreign commerce, and otherwise disrupt the orderly marketing of such commodity in such commerce. Abnormally deficient supplies result in an inadequate flow of wheat and its products in interstate and foreign commerce with consequent injurious effects to the instrumentalities of such commerce and with excessive increases in the prices of wheat and its products in interstate and foreign commerce.

It is in the interest of the general welfare that interstate and foreign commerce in wheat and its products be protected from such burdensome surpluses and distressing shortages, and that a supply of wheat be maintained which is adequate to meet domestic consumption and export requirements in years of drought, flood, and other adverse conditions as well as in years of plenty, and that the soil resources of the Nation be not wasted in the production of such burdensome surpluses. Such surpluses result in disastrously low prices of wheat and other grains to wheat producers, destroy the purchasing power of grain producers for industrial products, and reduce the value of the agricultural assets supporting the national credit structure. Such shortages of wheat result in unreasonably high prices of flour and bread to consumers and loss of market outlets by wheat producers.

> The conditions affecting the production and marketing of wheat are such that, without Federal assistance, farmers, individually or in cooperation, cannot effectively prevent the recurrence of such surpluses and shortages and the burdens on interstate and foreign commerce resulting therefrom, maintain normal supplies of wheat, or provide for the orderly marketing thereof in interstate and foreign commerce.
>
> The provisions of this Part affording a cooperative plan to wheat producers are necessary in order to minimize recurring surpluses and shortages of wheat in interstate and foreign commerce, to provide for the maintenance of adequate reserve supplies thereof, and to provide for an adequate flow of wheat and its products in interstate and foreign commerce. The provisions hereof for regulation of marketings by producers of wheat whenever an abnormally excessive supply of such commodity exists are necessary in order to maintain an orderly flow of wheat in interstate and foreign commerce under such conditions."

The operative provisions regarding marketing quotas are in Sections 335 to 339 (52 Stat. 54-55).

This Court thus had solid foundation for stating (87 L. Ed. p. 59):

> "The general scheme of the Agricultural Adjustment Act of 1938 as related to wheat is to control the volume moving in interstate and foreign commerce in order to avoid surpluses and shortages and the consequent abnormally low or high wheat prices and obstructions to commerce."

The amendment of May 26, 1941 increased the penalty for the farm marketing excess and subjected the entire crop to a lien for the payment thereof.

The question before this Court therefore was simply whether, in view of the use to which Filburn put his wheat, his surplus could be said to affect interstate commerce and the declared policy of Congress with respect to it sufficiently to make the application of the statute to him constitutional. As to that this Court said (87 L. Ed. p. 66):

> "The effect of consumption of homegrown wheat on interstate commerce is due to the fact that it constitutes the most variable factor in the disappearance of the wheat crop."

There was in the record a stipulation of the economic facts on the basis of which this Court itself found that the raising of wheat for Filburn's own consumption did affect the marketing of wheat in interstate commerce. It said (p. 67):

> "This record leaves us in no doubt that Congress may properly have considered that wheat consumed on the farm where grown if wholly outside the scheme of regulation would have a substantial effect in defeating and obstructing its purpose to stimulate trade therein at increased prices."

In contrast, Section 11(b)(1) of the Public Utility Holding Company Act of 1935 does not purport to be a regulation of interstate commerce; there is no congressional declaration that its provisions were necessary to carry out any policy with respect to interstate commerce; the impact of that section has nothing to do with interstate commerce or any effect thereon; there is no finding, judicial, administrative, or legislative, that the ownership by petitioner of the securities of which the orders here under review require divestment affected interstate commerce substantially or at all; and there is nothing in this record, by stipulation or otherwise, upon which this Court can make such a finding.

The differences between the Act here under review and the recent enactments which this Court has upheld under the commerce power are further illustrated by the case of *Sunshine Anthracite Coal Co.* v. *Adkins,* 310 U. S. 381, holding the Bituminous Coal Act of 1937 (50 Stat. 72) constitutional. This was entitled "An Act to regulate interstate commerce in bituminous coal, and for other purposes". Its opening language was a congressional declaration

> "That regulation of the sale and distribution in interstate commerce of bituminous coal is imperative for the protection of such commerce; that there exist practices and methods of distribution and marketing of such coal that waste the coal resources of the Nation and disorganize, burden, and obstruct interstate commerce in bituminous coal, with the result that regulation of the prices thereof and of unfair methods of competition therein is necessary to promote interstate commerce in bituminous coal and to remove burdens and obstructions therefrom."

Section 4 sets forth the Bituminous Coal Code and the third paragraph of that section, which introduces the detailed provisions regarding the code, declares as follows:

> "For the purpose of carrying out the declared policy of this Act, the code shall contain the following conditions and provisions, which are intended to regulate interstate commerce in bituminous coal *and which shall be applicable only to matters and transactions in or directly affecting interstate commerce* in bituminous coal:"

This Court, in upholding the regulatory provisions of the statute, said (p. 393):

> "These provisions are applicable only to sales or transactions in, or directly or intimately affecting, interstate commerce."

In the court below the Commission attempted to analogize the provisions of Section 11(b)(1) requiring divestment of properties with the Sherman Act, the Clayton Act and the commodities clause of the Hepburn Act. The analogy wholly fails. Those statutes prescribe rules for the conduct of interstate commerce. No divestment of property is provided for. When it occurs it is as incident to the enforcement of the rule, and because of a judicial finding that the policy of Congress with respect to interstate commerce requires it. The decisions under those acts make clear that divestment of properties cannot be justified under the commerce clause simply because the corporate owners thereof are engaged in interstate commerce.

That was made plain in the Sherman Act case most strongly relied on by the Commission below, *Northern Securities Company* v. *United States*, 193 U. S. 197. There it was held that the acquisition by the Northern Securities Company, after the passage of the Sherman Act, of the capital stocks of two competing interstate carriers, Great Northern and Northern Pacific, was in violation of that Act, and the Northern Securities Company was ordered to divest itself thereof. The basis for the decision was that the acquisition of these stocks by the holding company violated the rule embodied in the Sherman Act that competition in interstate commerce could not be restrained by any device whatever. If the Northern Pacific and Great Northern had not been in competition, the ownership of their stocks by the Securities Company would have

offended no rule for interstate commerce and a requirement of divestment would have been without constitutional foundation. The opinions of the majority and the minority in that case bring this out clearly.

The minority view was that the Sherman Act, if construed so as to prevent the Northern Securities Company from acquiring the stocks of competing railroads, was a regulation by Congress of ownership, and that Congress did not have this power under the Constitution. The majority view was that Congress had not undertaken to regulate ownership, but had laid down a rule for the conduct of interstate commerce, and that acquisition of securities in conflict with that rule could be, and was, made illegal.

Mr. Justice White, writing for the dissenting Justices, said (p. 369):

> "Does the delegation of authority to Congress to regulate commerce among the States embrace the power to regulate the ownership of stock in state corporations, because such corporations may be in part engaged in interstate commerce? Certainly not, if such question is to be governed by the definition of commerce just quoted from *Gibbons* v. *Ogden*. Let me analyze the definition. 'Commerce undoubtedly is traffic, but it is something more, it is intercourse;' that is, traffic between the States and intercourse between the States. I think the ownership of stock in a state corporation cannot be said to be in any sense traffic between the States or intercourse between them."

Mr. Justice Harlan, for the majority, said (p. 334):

> "* * * It [the Government] does not contend that Congress may control the mere acquisition or the mere ownership of stock in a state corporation

engaged in interstate commerce. Nor does it contend that Congress can control the organization of state corporations authorized by their charters to engage in interstate and international commerce. But it does contend that Congress may protect the freedom of interstate commerce by any means that are appropriate and that are lawful and not prohibited by the Constitution.

(p. 337) "The means employed in respect of the combinations forbidden by the Anti-Trust Act, and which Congress deemed germane to the end to be accomplished, was to prescribe as a *rule* for *interstate and international* commerce, (not for domestic commerce,) that it should not be vexed by combinations, conspiracies or monopolies which restrain commerce by destroying or restricting competition." (Italics in original.)

The case lays down no rule that Congress may compel divestment of the ownership of stock, even in the case of corporations engaged in interstate commerce, whenever it deems such ownership to be against the general welfare. It lays down only the principle that where a corporation purchases stock with the purpose and effect of restraining competition in interstate commerce, the Court can compel the divestment of the stock in order to eliminate the restraint on interstate commerce. The *reductio ad absurdum* of the view that Congress can regulate anything which might affect commerce in any degree was given by Mr. Justice Holmes (p. 402):

"* * * Commerce depends upon population, but Congress could not, on that ground, undertake to regulate marriage and divorce."

The cases that have arisen under Section 7 of the Clayton Act, prohibiting restraints on competition in interstate

commerce by the acquisition of stock of competing companies, add nothing. Moreover, Section 7 is not retroactive, but expressly provides:

> "Nothing contained in this section shall be held to affect or impair any right heretofore legally acquired."

The cases under the commodities clause of the Hepburn Act show clearly that the regulation was of interstate commerce. It concerned only coal transported in interstate commerce, and the purpose of Congress was to prevent railroads from occupying the dual position of carrier and shipper as to coal transported in interstate commerce. In the first case that arose under that Act (*United States* v. *Delaware & Hudson Company*, 213 U. S. 366) the Government contended that Congress had the power to prohibit an interstate railroad from engaging in the business of mining coal. Because of the grave constitutional questions which the Court held were presented by that contention (see pp. 406-408), this Court construed the Act as merely preventing the carrier from transporting coal which it owned when transported. The Court further held that the Act did not prevent a railroad corporation from owning the stock of the mining company (p. 413). In *United States* v. *Lehigh Valley R. Co.*, 220 U. S. 257, it was held that the right of a carrier to own such stock did not apply where the carrier controlled the mining company to such an extent as to destroy its separate entity. In *United States* v. *Delaware, L. & W. R. R. Co.*, 238 U. S. 516, where the Court held the mining company to be the mere agent of the carrier, it reaffirmed its decision that ownership of stock therein was not in itself enough to make the transportation illegal.

There is nothing in the case of *Electric Boud & Share Co.* v. *Securities and Exchange Commission*, 303 U. S. 419 (the only decision of this Court in which the constitutionality of any provision of the Public Utility Holding Company Act has been considered), which in any way affects these conclusions. It decided nothing except that the defendants in that case could constitutionally be required to register under Sections 4 and 5 of the Act; and the implications from that decision, so far from aiding the contentions of the Commission here, are opposed to them. The question of the validity of any provision of the Act except Sections 4 and 5 was expressly excluded. The chief issue arose on defendants' contention that those sections were merely auxiliary to the "control" provisions (Sections 6-13) and so interwoven with them that they could not properly be treated as a separate enactment, to be enforced regardless of the constitutionality of the rest of the Act (pp. 433-435, 437). This Court would not have had to decide that difficult question of construction if it had entertained any idea that the relation of the defendants' activities to interstate commerce were enough as to make the control provisions constitutional as against them anyhow. To the contrary, the Court emphasized again and again the reservation of the defendants' constitutional and legal rights as to all the other sections of the Act, and it said (p. 435) that this reservation was not "illusory". It quoted with express approval (p. 436) the statement of the District Court that

> "* * * § 1 (c) in its entirety negatives any conclusion that the simplification and elimination of holding companies 'is the sole policy or the whole end and object of the Act, which, as stated, is "to

> meet the problems and eliminate the evils, as enumerated in this section, connected with public utility holding companies,"' and thus 'simplification and elimination' are but a means and not 'the exclusive means' deemed to be essential for the purpose of effectuating such policy in whole *or insofar as may be constitutionally possible.'"

This was particularly true of Section 11. The Court (p. 436) thus described the Government's contention:

> "* * *'If, for example,' argues the Government, 'section 11 dealing with corporate reorganizations were adjudged invalid, there is no inherent reason why the other regulatory provisions could not be enforced as the Congress provided.'"

The Court's conclusion was (p. 441) that "Without attempting to state the limits of permissible regulation in the execution of" the declared policy of Congress with respect to public utility holding companies, it had no reason to doubt "that from these defendants, with their highly important relation to interstate commerce and the national economy, Congress was entitled to demand the fullest information as to organization, financial structure and all the activities which could have any bearing upon the exercise of congressional authority". It is manifest from the opinion that, when the Supreme Court said that the defendants in that case* were "engaged in activities within the reach of Con-

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*It should be noted that the activities of the defendants in the *Electric Bond & Share* case, which this Court emphasizes as related to interstate commerce, are not parallelled in the case of North American. Thus the Court (303 U. S., pp. 431-440) referred to "an elaborate stipulation" in the record and to the "findings of fact" of the trial court on that subject. But in the

gressional power" (303 U. S., p. 433), it meant that they were subject to the exercise of that power which was embodied in Sections 4 and 5.

Congress can, of course, require the *furnishing of information* from one whose activities only remotely touch upon interstate commerce. Indeed, it can require *information* to be furnished for the purpose of determining its jurisdiction. See, *e.g., Newport Shipbuilding & Dry Dock Co.* v. *Schauffler,* 303 U. S. 54, 58.

If the vague, general and equivocal references to interstate commerce in Section 1 of the Public Utility Holding Company Act were held sufficient to justify the sweeping requirements for compulsory divestiture of property which are contained in Section 11(b)(1) as a proper exercise of the commerce power, it is impossible to fix limits to its scope. Congress would equally be authorized to fix the number of factories that an industrial concern might be permitted to have, or the number of branch stores that a mercantile establishment might maintain, the locations thereof, the per-

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instant case there are no such stipulation and no such findings by any court or by the Commission. For example, the defendants in the *Electric Bond & Share* case were performing, either directly or through a wholly-controlled subsidiary, several contracts for the rendering of continuous expert specialized and technical service, advice and assistance to the subsidiary companies upon every phase of the utility enterprise (303 U. S., pp. 432-433). But North American, in its entire history, has never had a service company providing management, construction or other services for compensation (R., Vol. VIII, 2903) and the Commission found (R., Vol. I, 100-101) that "as nearly as can be determined from the record in this case, North American leaves operations and operational policy to the managements of its subsidiaries."

mitted number, character and residence of their personnel, etc. A conception of federal power as including control of the ownership of property to promote the general welfare, and regardless of the existence or absence of an effect on interstate commerce, would read out of the Constitution the limitation that congressional action under Article I, section 8, clause 3 must be in regulation of interstate commerce.

SECOND: SECTION 11(b)(1) OF THE ACT VIOLATES THE DUE PROCESS CLAUSE OF THE FIFTH AMENDMENT.

The Circuit Court of Appeals (R., Vol. X, 4009-4010) held that "the guaranty of due process demands only that the law shall not be 'unreasonable, arbitrary, or capricious and that the means selected shall have a real and substantial relation to the object sought to be attained' ", citing *Nebbia* v. *New York*, 291 U. S. 502, 525.

"Whatever terminology is used, the criterion is necessarily one of degree" since "mathematical or rigid formulas * * * are not provided by the great concepts of the Constitution such as 'interstate commerce', 'due process', and 'equal protection' ", *Santa Cruz Fruit Packing Co.* v. *National Labor Relations Board*, 303 U. S. 453, 467. There is no doubt of the general rule that the Fifth Amendment limits congressional action in connection with the commerce power. *Monongahela Navigation Company* v. *United States*, 148 U. S. 312, 324-325, 336. The only question is as to what kinds of interference with property rights may be sustained as consistent with its terms.

It is certainly not enough that the means selected by Congress has a real and substantial relation to the object

sought to be attained. That might be a sufficient answer to an attack under the Fifth Amendment of the regulatory provisions of the Act where any injuries to property rights might be deemed merely consequential. But it is not in itself an answer to an enactment like Section 11(b)(1) which operates retroactively to cause actual deprivations without provision for compensation of property rights lawfully acquired and held. For example, acquisition of a desirable site for a post office would certainly be an appropriate means of carrying out the power of Congress "To establish Post Offices and post Roads", and the acquisition of a right-of-way for an interstate railroad or power transmission line would equally be an appropriate exercise of the commerce power. But no one would contend that either could be done without compensating the owner of the property thus acquired. The Circuit Court of Appeals said (R., Vol. X, 4010) that "Compelling the holding company to dispose of its securities is not the same as condemning private property for public use without paying just compensation". But the injunction of the Fifth Amendment against deprivations of property without due process of law is by no means confined to condemnations.

In *Louisville Joint Stock Land Bank* v. *Radford*, 295 U. S. 555, this Court held the first Frazier-Lemke Act unconstitutional as against a mortgagee suing to foreclose a farm mortgage made some ten years before the passage of the Act. The Court found (p. 594) that the Act had taken from the mortgagee definite property rights, which were recognized by the law of Kentucky. To the argument that the Act was an appropriate exercise of the bankruptcy power, the Court replied that exercise of that

sort was barred by the Fifth Amendment. Mr. Justice Brandeis, writing for a unanimous Court, said:

> "Because the Act is retroactive in terms and as here applied purports to take away rights of the mortgagee in specific property, another provision of the Constitution is controlling.
>
> "*Fourth.* The bankruptcy power, *like the other great substantive powers of Congress,* is subject to the Fifth Amendment." (p. 589).

Both the purpose and effect of the Frazier-Lemke Act there involved had considerable similarity to those of Section 11(b)(1) of the Act here in question. They are thus summarized in the following passage in this Court's opinion (pp. 598-599):

> "*Seventh.* Radford contends further that the changes in the mortgagee's rights in the property, even if substantial, are not arbitrary and unreasonable, because they were made for a permissible public purpose. That claim appears to rest primarily upon the following propositions: (1) The welfare of the Nation demands that our farms be individually owned by those who operate them. (2) To permit widespread foreclosure of farm mortgages would result in transferring ownership, in large measure, to great corporations; would transform farmer-owners into tenants or farm laborers; and would tend to create a peasant class. (3) There was grave danger at the time of the passage of the Act, that foreclosure of farms would become widespread. The persistent decline in the prices of agricultural products, as compared with the prices of

articles which farmers are obliged to purchase, had been accentuated by the long continued depression and had made it impossible for farmers to pay the charges accruing under existing mortgages. (4) Thus had arisen an emergency requiring congressional action. To avert the threatened calamity *the Act presented an appropriate remedy.* Extensive economic data, of which in large part we may take judicial notice, were submitted in support of these propositions."

This Court answered that argument as follows (pp. 601-602):

"We have no occasion to consider either the causes or the extent of farm tenancy; or whether its progressive increase would be arrested by the provisions of the Act. Nor need we consider the occupations of the beneficiaries of the legislation. These are matters for the consideration of Congress; and the extensive provision for the refinancing of farm mortgages which Congress has already made, *shows that the gravity of the situation has been appreciated.* The province of the Court is limited to deciding whether the Frazier-Lemke Act as applied has taken from the Bank without compensation, and given to Radford, rights in specific property which are of substantial value [citing cases]. As we conclude that the Act as applied has done so, we must hold it void. *For the Fifth Amendment commands that, however great the Nation's need, private property shall not be thus taken even for a wholly public use without just compensation.* If the public interest requires, and permits, the taking of property of individual mortgagees in order to relieve the necessities of individual mortgagors, resort must be had to proceedings by eminent domain; so that,

through taxation, the burden of the relief afforded in the public interest may be borne by the public".

In the same vein are the expressions of this Court, by Mr. Justice Holmes, in *Pennsylvania Coal Co. v. Mahon,* 260 U. S. 393, which reversed under the Fourteenth Amendment a state decision upholding as "a legitimate exercise of the police power", a statute forbidding the mining of anthracite coal in such a way as to cause the subsidence of, among other things, any structure used as a human habitation, with certain exceptions:

> "Government hardly could go on if to some extent values incident to property could not be diminished without paying for every such change in the general law. As long recognized, some values are enjoyed under an implied limitation and must yield to the police power. But obviously the implied limitation must have its limits, or the contract and due process clauses are gone. * * * [p. 413].
>
> "* * * What makes the right to mine coal valuable is that it can be exercised with profit. To make it commercially impracticable to mine certain coal has very nearly the same effect for constitutional purposes as appropriating or destroying it. * * * [p. 414].
>
> "* * * We are in danger of forgetting that a strong public desire to improve the public condition is not enough to warrant achieving the desire by a shorter cut than the constitutional way of paying for the change. As we already have said, this is a question of degree—and therefore cannot be disposed of by general propositions." [p. 416].

In *Block* v. *Hirsh,* 256 U. S. 135 this Court upheld, against attack under the Fifth Amendment, an emergency rent law for the District of Columbia protecting from evic-

tion tenants whose leases expired while the Act was in force so long as they paid reasonable rent, but solely on the ground of its being a temporary measure necessitated by emergency conditions growing out of the War. Mr. Justice Holmes, writing for the majority of this Court, recognized that "regulations of the present sort pressed to a certain height might amount to a taking without due process of law" (p. 156), and concluded: "A limit in time, to tide over a passing trouble, well may justify a law that could not be upheld as a permanent change".

In *Wickard* v. *Filburn*, 87 L. Ed. 57, (*supra*) the grounds upon which this Court upheld the legislation there involved against attack under the Fifth Amendment were that its apparently retroactive features were not actually such because "the penalty was contingent upon an act which appellee committed not before but after the enactment of the statute", and that the statute, along with the detriments complained of, conferred large benefits upon the appellee. This Court concluded (p. 69):

> "* * * That appellee is the worse off for the aggregate of this legislation does not appear; it only appears that if he could get all that the Government gives and do nothing that the Government asks, he would be better off than this law allows. To deny him this is not to deny him due process of law."

Neither of these grounds applies to Section 11(b)(1). Its operation is manifestly retroactive and neither that section nor the Act as a whole confers upon petitioner any benefit to compensate for the deprivation of property which its enforcement would entail.

That deprivation of property is no mere technical one, but will inevitably involve a vast destruction of values.

First and paramount is the destruction of the right of the shareholders to pool their investments and thereby obtain for them the benefit of efficient, common management of diversified interests. That right is one conferred by the State of New Jersey which has authorized persons to form corporations in order to acquire and hold stocks of other companies. The North American Company represents one of the early exercises of that right. It was organized in 1890 and its 53 years of history shows how valuable that right has been. The North American Company has steadily grown and prospered and it has done so through being a prudent and wise investor. The record of this case is replete with evidence showing the beneficent influence of The North American Company management upon the properties in which it has largely invested. That management has promoted efficient local managements. It has provided them with the financial resources for sound development and has promoted operating efficiency through encouraging the operating companies to exchange the benefits of their experience.

This is a case where the whole is greater than the sum of the separate parts. Two values are inherent in the whole which are destroyed when it is broken up into its separate parts—the value of further assurance of competent operating management and of sound financing of properties, and the value of diversity of investment, the existence of which is dependent on the continuance of the holding company in relationship to the operating utility companies.

The functions of the holding company, in the case of North American, are to provide a diversity of investment in sound, metropolitan operating utilities located in different parts of the country, where local economic and business

conditions affecting earning power from year to year vary and where local rainfall conditions affecting the production of hydro-electric power vary; and to provide a supervisory investor management responsible to the stockholders for seeing that competent operating managements are maintained in charge of the operations of the utility properties, and that the subsidiary companies and local properties are soundly financed and have available the necessary capital and the best of technical facilities in order to meet the growing needs for electric power of the communities which they serve.

To break up The North American Company by requiring it to divest itself of all its assets except one property is to destroy very real and important elements of value, regardless of whether the break-up can be effected by distribution of assets, as against enforced liquidation of assets.

It is true that large investors can obtain diversity of location of the utility properties in which they invest by buying a number of parcels of independent operating utility stocks instead of one parcel of holding company stock. However, the small investor has no such choice, as a practical matter, and must give up this factor of diversity if his holding company is eliminated or restricted to ownership of one property. The overwhelming majority of petitioner's common stockholders hold 100 shares or less. On the other hand, large investors, as well as small investors, cannot obtain the benefits of the supervisory investor management which are real and important factors of value in the stock which they have bought and paid for unless there be the continuance of the holding company.

This deprivation of property is not avoided by talking about "abuses" or "evils". Moreover, in the case of The

North American Company citation of no such abuses or evils is to be found in the reports of the Federal Trade Commission or of the Committee on Interstate and Foreign Commerce (House of Representatives) referred to in Section 1(b) of the Act as disclosing facts on the basis of which the recitation of "abuses" and "evils" in Section 1(b) is predicated. Neither is finding of such abuses or evils in the case of The North American Company to be found in the Findings and Opinion of the Commission (R., Vol. I, 73-178). The Act makes no provision for such findings. We submit that, if compulsory divestment of property is to be regarded as a means of eliminating "abuses", due process demands that the statute which compels this should equally provide for a fair hearing on the question of whether the person affected has in fact been guilty of the abuses sought to be remedied.

Nor is this deprivation of property avoided by referring to the extension of time, "plan of reorganization" and receivership provisions of Section 11 (c), (d) and (e) of the Act, because extensions of time of voluntary compliance for an additional year, plans of reorganization, whether voluntary or involuntary, and whether or not adjudged fair and equitable, and receiverships and trusteeships, all lead eventually and inevitably to one goal—the break-up of the holding company and the divestment of all its assets except one property. That break-up, that divestment, of itself constitutes a very real destruction of values and deprivation of property, regardless of the technical steps and methods employed in carrying it out.

In addition to this right of which the Commission's order would deprive the stockholders of the Company, the

order involves a further destruction of values in its requirement that the petitioner divest itself of investments having an approximate cost to it of $190,000,000. (See Appendix A).

There are only two methods by which the divestment order may be carried out. One is by a distribution of assets in kind; the other by a liquidation of such assets.

A distribution in kind would be impossible unless the presently outstanding debentures and preferred stock of petitioner are first paid off at their liquidation or redemption prices, aggregating over $100,000,000. This prior right of the holders of debentures and preferred stock is, contractually, a right to dollars and petitioner is amply solvent. Thus, cash must be realized in that amount, or underlying stocks must be exchanged for petitioner's debentures and preferred stocks on a basis which satisfies their holders that they are getting, on the basis of market values, the equivalent of cash. Only after that can there be any distribution of assets in kind to petitioner's common stockholders. The only practicable method, therefore, of complying with the divestment order is by a very large liquidation of securities. This is, of course, exactly the method of divestment which will produce the most disastrous consequences.

Any enforced, large-scale liquidation at any time means substantial sacrifice. As this Court said in *Harriman* v. *Northern Securities Co.*, 197 U. S. 244, 299, "the forced sale of several hundred millions of stock would have manifestly involved disastrous results." If the enforced liquidation were effected on a high market there would still be large losses in relation to what would have been realized out of transactions between free sellers and willing buyers.

The liquidation is at valuations fixed by buyers who know that the sellers are under compulsion to sell; it is not at valuations arrived at between free sellers and willing buyers. The point is not whether at the moment the stock market is "high" or "low", but it is that Section 11(b)(1) creates a situation where there must be liquidation under circumstances which inherently prevent a realization of fair values of the underlying assets, even after the loss on break-up of the holding company is accepted. No extensions of time or waiting for a favorable turn in the cycle of markets, no substitution of statutory receivers or trustees for the lawfully constituted management of the Company, elected by the stockholders, no plan of reorganization, however clever and intricate, can avoid these losses to stockholders attendant on enforced liquidation which are inherent in the application of Section 11(b)(1) to a thoroughly solvent holding company with senior securities outstanding in excess of $100,000,000.

A fortiori, an enforced, large-scale liquidation in the course of the present total war, with its consequent depressed market conditions and the disappearance of security purchasing demands and power, means the maximum in sacrifice. When the British owners of Viscose Company were, in 1941, forced to sell their stock in the American market to produce dollar exchange as a war requirement of their government, the British government recognized that the liquidation involved, in effect, a confiscation of 50% of the real value and it indemnified the owners to that extent (*N. Y. Times*, July 23, 1942).

Inevitably, the risks and the losses of forced liquidations must be borne by petitioner's common stockholders. There

are about 58,000 holders of petitioner's common stock of whom 85% hold 100 shares or less. They reside in every state of the United States, and include insurance companies, trustees, guardians, executors, and educational and religious institutions. More than 460,000 shares of common stock are held by banking institutions as trustees for about 1,300 trust accounts. (R., Vol. VIII, 2873-5). It is these people who will ultimately feel the consequences of the Commission's order. The Commission's order will result in a true and real deprivation of property lawfully acquired and held for many years.

The Circuit Court of Appeals said (R., Vol. X, 4010):

> "If, as petitioner contends, such distribution will be impossible and a liquidation by sale becomes necessary, *the process may be painful to its common stockholders*, but we cannot say that the *remedy selected* by Congress is so unreasonable, arbitrary or capricious as to constitute taking property without due process."

In fact, Congress selected two separate procedures: (1) the far-reaching regulatory provisions of the Act other than Section 11(b)(1); and (2) divestment of existing property holdings under that section.

The "policy" of the Act, as stated in subdivision (c) of Section 1 (quoted *supra*, pp. 27-30) was "to meet the problems and eliminate the evils as enumerated in this section, connected with public utility holding companies which are engaged in interstate commerce or in activities which directly affect or burden interstate commerce; * * *". These "evils", or "abuses" as they are called elsewhere in subdivision (c), are those enumerated in the five numbered paragraphs of subdivision (b) of Section 1. We here summarize

below in the left-hand column the "evils" or "abuses" so found by Congress and in the right-hand column the elimination thereof through the regulatory provisions of the Act other than Section 11(b)(1). The constitutionality of these truly regulatory provisions is not here in issue, and as a practical matter regulation thereunder has now for nearly six years been accepted by petitioner and all other important public utility holding companies in the United States.

Abuses Enumerated in Section 1 of the Act:	*Regulation:*
1. Inadequate information for investors (Section 1(b)(1))	Section 5 of the Act provides that upon registration a holding company must file complete information about itself and all of its subsidiaries. Section 7 prohibits a holding company or a subsidiary from issuing securities unless detailed information is filed with the Commission. Section 10 prohibits the acquisition of securities, utility assets or other interest without Commission approval and the filing of detailed information. Section 14 requires a holding company to file annual, quarterly "and other periodic and special reports" ordered by the Commission by rule or regulation. Under Section 22 the information so filed shall be made available to the public unless the Commission otherwise directs. Section 15 provides that registered holding companies and subsidiaries shall maintain accounts and records as prescribed by the Commission.

Abuses Enumerated in Section 1 of the Act:	*Regulation:*
2. Unregulated issue of securities (Section 1(b)(1))	Sections 6 and 7 of the Act prohibit the sale of securities unless approved by the Commission.
3. Security issues on capitalization of fictitious values (Section 1(b)(1))	Section 7(d) provides that the Commission shall not permit the sale of securities unless it finds that the security is reasonably adapted to the earning power of the issuing company and that the financing is necessary or appropriate to the economical and efficient operation of its business.
4. Security issues on overcapitalization to prevent voluntary rate reduction (Section 1(b)(1))	In addition to Section 7 which prohibits holding companies and subsidiary companies from issuing securities without Commission approval, Section 204, of Part 2 of Title II of the Act prohibits the issue of a security by public utility companies without prior approval of the Federal Power Commission, except when the Company is both organized and operating in a state which regulates security issues.
5. Excessive charges to subsidiary by holding company (Section 1(b)(2))	Section 13 provides that such charges are either prohibited or brought under the regulation of the Commission.
6. Service charges not susceptible of state regulation (Section 1(b)(2))	

Abuses Enumerated in Section 1 of the Act:	*Regulation:*
7. Abuse of control over accounts, rates and dividends of operating companies (Section 1(b)(3))	Accounts of holding companies and subsidiaries are controlled by Section 15. Dividend policies are controlled by Section 12(c). Rates of operating companies are fixed by State Commissions or by the Federal Power Commission under the Federal Power Act.
8. Control of operating companies through disproportionately small investment (Section 1(b)(3))	Apart from Section 11(b)(2) much is being done by the Commission under such sections as 7, 10, 12 and 13 to rectify this type of situation.
9. Growth unrelated to the integration and coordination of related operating properties (Section 1(b)(4))	Further growth is wholly subject to Commission control under Sections 9 and 10. Existing lack of integration and coordination of related operating properties is subject to the power of the Federal Power Commission under Section 202(b) of the Federal Power Act to compel the physical connection of transmission facilities.
10. Lack of economy of managements, etc. (Sections 1(b)(4) and (5))	The Commission asserts broad power to insure economy of management under various sections, notably Section 13, of which (e) gives the Commission jurisdiction over the "costs" of services rendered by an "affiliate", which term (Section 2(a)(11)) includes any officer or director or any other person that the Commission determines has a

Abuses Enumerated in Section 1 of the Act: *Regulation:*

relation to a company such that there is liable to be an absence of "arm's length bargaining."

It is in the light of this background that the means embodied in Section 11(b)(1) is to be appraised. On the decisions of this Court above cited we submit that, in view of the deprivation of property rights and the destruction of values that it inevitably entails, it would not in any case be a legitimate means of carrying out the purpose of the Act. But, even if that contention be not accepted, we submit that, considering the extent to which the congressional purpose has been attained by the regulatory provisions of the Act, and considering the vast destruction of values which would attend the compulsory divestment provided in Section 11(b)(1), the terms of that section are so unreasonable, arbitrary and capricious as to constitute the taking of property without due process of law.

CONCLUSION

The combination of the propositions for which the Commission contends in this case,—(1) that the required relation between the object of the legislation and interstate commerce can be found on considerations as tenuous as those here presented; and (2) that deprivation of property by virtue of a statute so grounded is mere consequential damage infringing no right under the Fifth Amendment,—amounts in substance to denial of any constitutional safe-

guard against arbitrary congressional confiscation of property.

The Order of the Circuit Court of Appeals should be reversed and the Orders of the Commission here under review should be set aside.

Respectfully submitted,

CHARLES E. HUGHES, JR.,
Counsel for Petitioner.

SULLIVAN & CROMWELL,
Of Counsel.

March 25, 1943

APPENDIX A

THE NORTH AMERICAN COMPANY

(Summary of Investments Held at September 30, 1942; Based on Petitioner's Exhibit 425 (R., Vol. X, 3394-5) and R., Vol. VII, p. 2857, Adjusted to Reflect Changes to September 30, 1942)

	Number of shares or principal amount owned by The North American Company	Carrying value at September 30, 1942
Wisconsin Electric Power Company		
Preferred Stock	13,494 shs.	$ 1,349,400.00
Common Stock	2,493,710 shs.	30,868,039.46
Union Electric Company of Missouri		
Common Stock	2,695,000 shs.	61,840,780.70
Laclede Power and Light Company		
Common Stock Voting Trust Certificates		404,040.89
Mississippi River Power Company		
6% Preferred Capital Stock Scrip		62.63
Common Stock		22,522.00
The St. Louis County Gas Company		
Capital Stock	41,000 shs.	4,100,000.00
Washington Railway and Electric Company		
Common Capital Stock	50,197 shs.	10,272,456.27
Participating Units for Deposited Shares	65,233 ctfs.	333,737.94
Capital Transit Company		
Capital Stock	3,012 shs.	274,093.92
5% Notes maturing serially from 1943 to 1946	$120,000	120,000.00
North American Light & Power Company		
$6 Preferred Stock	84,925 shs.	4,157,044.21
Common Stock	5,327,067 shs.	22,211,602.54
5½% Debentures, due July 1, 1956.	$5,623,500	3,791,211.94

THE NORTH AMERICAN COMPANY

(Summary of Investments, continued)

	Number of shares or principal amount owned by The North American Company
Illinois Iowa Power Company (formerly Illinois Power and Light Corporation)	
5% Preferred Stock	4,700 shs.
Common Stock	4,700 shs.
Dividend Arrears Certificates	4,700 ctfs.
The Cleveland Electric Illuminating Company	
Common Stock	1,847,908 shs.
Pacific Gas and Electric Company	
Common Stock	2,002,770 shs.
The Detroit Edison Company	
Capital Stock	297,894 shs.
West Kentucky Coal Company (N. J.)	
7% Cumulative Preferred Stock	
Common Stock	
North American Utility Securities Corporation	
Second Preferred Stock	60,000 shs.
Common Stock	376,151 shs.
60 Broadway Building Corporation	
Capital Stock	
Open Account	
Milwaukee Light, Heat & Traction Company	
Capital Stock	
Associated Music Publishers, Inc.	
Preferred Stock	
3% Note due April 27, 1943	

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CHARLES ELMORE CROPLEY
CLERK

IN THE

Supreme Court of the United States

OCTOBER TERM—1942

No. 721

THE NORTH AMERICAN COMPANY,
Petitioner,

against

SECURITIES AND EXCHANGE COMMISSION,
Respondent.

ON WRIT OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE SECOND CIRCUIT

REPLY BRIEF OF PETITIONER

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Of Counsel.

April, 1943.

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I. THE COMMERCE POWER.

Two principal theses pervade the argument in the Commission's brief based on the commerce power. The first is that petitioner's relationship to the enterprises in which it holds securities is not that "of a large investor seeking to promote the sound development of his investment" but that it "has control over" these enterprises (Brief, pp. 12-13, 27). The second is that petitioner in its communications and contacts with the corporations in which it owns securities, and otherwise, uses facilities of interstate commerce, such as interstate trains and telegraph and telephone lines, and the mails (Br. pp. 27-28).

These two theses are the Commission's sole answer to petitioner's contention that its ownership of the securities of which it has been ordered to divest itself is not commerce, interstate or intrastate, and accordingly is not within the reach of congressional power unless such ownership has been found to have a substantial effect on interstate commerce or a tendency to obstruct the power of Congress over it, and that this Court has before it no finding of such effect or tendency by the Commission, by any court or by Congress itself.

The Commission concedes (Br. p. 29) that the Act contains no provision for a finding by the Commission or by a court that the particular company subjected to an order under Section 11(b)(1) shall itself be engaged in interstate commerce or "that the situations corrected by the order shall in the particular case have an effect on interstate commerce". It makes only a half-hearted argument that Congress has made any express finding to that effect. Its chief contention on that head is that the very enactment of Section 11(b)(1) itself must be taken as a finding, even in the absence of any express declaration, that all registered holding companies so affect interstate commerce as to be properly subject to its terms (Br. pp. 29, 30).

The Commission also makes an argument, the exact bearing of which on our contentions is not wholly clear, that the Act, and Section 11(b) in particular, are "in the conservative tradition of federalism", because they do not undertake to cover the whole field but leave certain regulatory functions to the several states in which the operating utility companies are organized and do business.

We shall discuss these contentions of the Commission in the order in which we have stated them.

a. The Commission's argument based on alleged "control" by petitioner of the corporations whose securities it owns.

The Commission's position apparently is that, even though Section 11(b)(1) of the Act may not be constitutional as applied to all registered holding companies, it is constitutional as applied to petitioner, because petitioner must be considered to be of "interstate character" by reason of its "control" of its subsidiaries (Br. pp. 24, 29).

What the Commission means by "control" is made clear by its statement (Br. p. 27) that petitioner "controls its subsidiaries and that *their acts are its acts*".* It has to adopt that meaning of "control" to make its point. The kind of "control" which is involved in the mere ownership of a large enough proportion of the voting stock of a company to influence the selection of a competent management would not suffice. That is simply a normal incident of ownership of stock for investment, which could not be considered to be commerce.

The Commission (Br. p. 7) quotes the President's message to Congress transmitting the report of the National Power Policy Committee, as follows:

> "We do not seek to prevent the legitimate diversification of investment in operating utility companies by legitimate investment companies. But the holding company in the past has confused the function of control *and management* with that of investment and in consequence has more frequently than not failed in both functions. * * * But an investment company ceases to be an investment company when

*All italics in quotations in this brief are supplied unless otherwise noted.

> it embarks into business *and management. Investment* judgment requires the judicial appraisal of *other people's* management."

The Commission makes the surprising statement (Br. p. 27) that its assertion that petitioner controls its subsidiaries in the sense that "their acts are its acts" is "not explicitly contested". But it is of no consequence that denial was not made *in haec verba* of an assertion that had not been made. Certainly our statement (Main Brief p. 8) that "petitioner has at no time engaged in the business of managing the operations of its public utility operating subsidiaries, or selling them supplies, engineering service or the like" and that "its relation has, essentially, been that of a large investor seeking to promote the sound development of his investment" should be deemed sufficient to take issue.

The Commission's reiterated assertion of "control" by petitioner, obviously intended to be understood in the sense stated at page 27, is made without support of any finding, by the Commission or anyone else, and even without citation of any part of the record believed to sustain it. It is contrary to the only finding on the subject which the Commission made (R., Vol. I, 100-101) that

> "As nearly as can be determined from the record in this case, North American leaves operations and operational policy to the management of its subsidiaries".

and to the evidence that petitioner, in its entire history, has never had a service company providing management, construction or other services for compensation (R., Vol. VIII, p. 2903). The Commission's present brief (p. 90), says that "North American's contribution to the management

of its underlying subsidiaries is largely limited to financial matters".

In the case of *Electric Bond & Share Co.* v. *Securities and Exchange Commission*, 303 U. S. 419, frequently relied on by the Commission in its brief, there was (pp. 431-440) "an elaborate stipulation" and "findings of fact" by the trial court of activities on the part of the defendants in that case which are not at all paralleled in this one. The Commission says (Br. p. 27) that "North American has, either directly *or through its subsidiaries* engaged in all the types of activities mentioned in the *Bond and Share* case as a basis for federal regulation". That statement is made without any supporting reference. To the extent that it creates the inference that petitioner had servicing subsidiaries, it is incorrect. Moreover, the qualifying phrase "either directly or through its subsidiaries" robs the statement of any significance, because if petitioner's subsidiaries are not its mere instrumentalities so that "their acts are its acts", the operations of the subsidiaries do not determine petitioner's character.

Certainly, we submit, before this Court can uphold the Commission's contention that Section 11 (b)(1), even if not constitutional as to all holding companies, is constitutional as applied to this petitioner, there must be findings of the degree of control asserted as the basis for that contention. There are none.

In the absence of such findings the Commission resorts to reference to other sections of the Act which it asserts have the effect of not requiring any company to comply with Section 11 (b)(1) unless it is interstate in character or "controls" subsidiaries which are so. These are the registration requirements in Section 4, the exemption pro-

visions of Section 3 and the definitions of "holding company" and "subsidiary company" in Sections 2 (a)(7) and 2 (a)(8).

The Commission's argument on Section 4 and Section 3 (Br. pp. 21-24, 33-36) is very slight. With respect to the registration provisions (Section 4) we have nothing to add to the argument in our main brief (pp. 19-21), and with respect to the exemption provisions of Section 3 there is very little that was not anticipated in it (pp. 21-24).

As to Section 3, the Commission attempts an argument (Br., p. 24) based on the declaration set forth in Section 1(c), that the policy of the Act is to meet the problems and eliminate the evils "connected with public-utility-holding companies which are engaged in interstate commerce or in activities which directly affect or burden interstate commerce". We have already commented upon this phrase in our discussion of Section 1 (Main Brief, p. 32). It might be germane if the operative provisions of Section 11 (b)(1), even taken in relation to Sections 3 and 4, were susceptible of a construction which would limit their application to public utility holding companies "which are engaged in interstate commerce or in activities which directly affect or burden interstate commerce". But such a construction is impossible, and none of the argumentation in the Commission's brief supports it.

The Commission's argument based on Sections 2 (a)(7) and 2 (a)(8), defining "holding company" and "subsidiary company", respectively, is that the essential test which they prescribe of the holding company-subsidiary relationship is the "test of control", from which it deduces that no company need comply with Section 11 if it is merely an investor in other companies "and does not control such other companies". For the purpose of that argument, however,

the Commission must use the word "control" in a sense quite different from the meaning which is attached to that term in the other portions of its brief to which we have above referred.

Under Section 2 (a)(7) the term "holding company" (and the definition of "subsidiary company" in Section 2(a)(8) is the exact counterpart) includes any company which owns 10 per centum or more of the outstanding voting securities of a public utility company, unless the Commission by order declares such company not to be a holding company. The Commission may not make such a declaratory order unless all three of the following conditions are established by the applicant:

> "* * * that the applicant (i) does not, either alone or pursuant to an arrangement or understanding with one or more other persons, directly or indirectly control a public-utility or holding company either through one or more intermediary persons or by any means or device whatsoever, (ii) is not an intermediary company through which such control is exercised, and (iii) does not, directly or indirectly, exercise (either alone or pursuant to an arrangement or understanding with one or more other persons) *such a controlling influence* over the management or policies of any public-utility or holding company *as to make it necessary or appropriate in the public interest or* for the protection of investors or consumers that the applicant be subject to the obligations, duties, and liabilities imposed in this title upon holding companies."

This is quite a different thing from merely creating a rebuttable presumption, as the Commission argues (Br. p. 20), that a holding of ten percent of voting securities

constitutes control. The construction of the third requirement relating to "controlling influence" by the Commission, which construction has been upheld by the courts, shows how far it is from "control" in the sense of management so that the subsidiary's acts may properly be deemed to be the acts of the holding company.

In *Detroit Edison Co.* v. *Securities & Exchange Commission,* 119 F. (2d) 730 (C. C. A. 6), cert. den. 314 U. S. 618, the Court found (p. 738):

> "There is no evidence in the record that petitioner [Detroit Edison Company] is controlled, directly or indirectly, by the North American Company, either through one or more intermediary persons or by any means or device whatsoever, and likewise there is no evidence in the record that petitioner is an intermediary company through which such control of another company is exercised."

In spite of this finding, the Court held Detroit Edison to be a subsidiary of North American, because the "latent power" of the latter as a stockholder constituted "controlling influence".

In *Pacific Gas and Electric Co.* v. *Securities & Exchange Commission,* 127 F. (2d) 378 (C. C. A. 9) the Court held (p. 384) that:

> "* * * In view of what we regard as the proper construction of the words in the statute, 'subject to a controlling influence', a finding for the company is not compelled by the fact that North American had not dominated the company in the past."

The Court concluded that the correct construction of the statute was that, even if none of the conditions specified

under Clauses (i), (ii), and (iii) were present, "it could still deny the application on the ground that there was a necessity or appropriateness that the act be held to be applicable to the applicant under the necessity clause" (p. 385). Thus it in effect held that the phrase "so as to make it necessary or appropriate in the public interest or for the protection of investors or consumers that the applicant be subject to the obligations, duties and liabilities imposed in this title upon subsidiary companies of holding companies" constituted a fourth criterion which must be negatived in addition to the preceding three. And that fourth criterion need have no relation to "control".

In *Hartford Gas Co.* v. *Securities and Exchange Commission*, 129 F. (2d) 794 (C. C. A. 2) the Court, while not in words going to the length to which the Circuit Court of Appeals for the 9th Circuit went in its construction of the "necessary or appropriate" clause, in effect reached about the same result. It said (p. 796):

> "* * * Subdivision iii calls for a showing of *extreme negation*. Its requirement is no less than that of *preponderating proof* that 'the management or policies of the applicant are not subject to a controlling influence, directly or indirectly, by such holding company * * * so as to make it necessary or appropriate in the public interest or for the protection of investors or consumers that the applicant be subject to the obligations, duties, and liabilities imposed in this title [chapter] upon subsidiary companies of holding companies * * *' Decision by the Commission involved both the weighing of the evidence to establish the actual facts *and* the weighing of the facts against the background of what is '*necessary or appropriate in the public interest or* for the protection of investors or consumers'."

In *Public Service Corporation of New Jersey* v. *Securities and Exchange Commission*, 129 F. (2d) 899 (C. C. A. 3) cert. den., 87 L. Ed. 223, the Court reiterated the doctrine of unexercised power as follows (p. 903):

> "* * * A 'controlling influence' may exist, although in latent form. Detroit Edison Co. v. Securities & Exchange Commission, supra. Even though, after 1938, UGI and United did not utilize their voting strength to elect directors, pass resolutions or veto corporate changes the latent power to do so was a present power to exert a 'controlling influence' upon Public Service at any time."

The above principle was again applied in *American Gas and Electric Company* v. *Securities and Exchange Commission* (Circuit Court of Appeals for the District of Columbia, Feb. 1, 1943, C.C.H., ¶ 90,196), in spite of the fact that the Electric Bond & Share Company, the holding company there involved, had relinquished most of the features which the Court had relied upon as indicia of control in the past.

Considering the strictness with which the doctrine of administrative finality has been applied in these cases, coupled with the interpretation of Section 2(a)(8) which they have approved, it is apparent that the fact (adverted to in the Commission's brief, p. 13) that in the first two cases above cited the Detroit Edison Company and the Pacific Gas and Electric Company, respectively, were denied orders declaring that they were not subsidiaries of this petitioner is utterly without significance on the issue whether petitioner controlled them in the sense that their acts were its acts, which is the only sense material to the question here involved.

The rules determining whether a company is in "control" of another in the latter sense have been many times enunciated by this Court and are quite different. In *Pullman's Palace Car Co.* v. *Missouri Pacific Ry. Co.*, 115 U. S. 587, 597, this Court said:

> "* * * The Missouri Pacific Company owns enough of the stock of the St. Louis, Iron Mountain and Southern to control the election of directors, and this it has done. The directors now control the road through their own agents and executive officers, and these agents and officers are in no way under the direction of the Missouri Pacific Company. If they or the directors act contrary to the wishes of the Missouri Pacific Company, that company has no power to prevent it, except by the election, at the proper time and in the proper way, of other directors, or by some judicial proceeding for the protection of its interests as a stockholder. Its rights and its powers are those of a stockholder only. It is not the corporation, in the sense of that term as applied to the management of the corporate business or the control of the corporate property."

And in *United States* v. *Reading Co.*, 253 U. S. 26, 62-63, this Court thus stated the rule as applied to the commodities clause of the Hepburn Act:

> "* * * This rule was repeated and applied in *United States* v. *Delaware, Lackawanna & Western R.R. Co.*, 238 U. S. 516, 529. It results that it may confidently be stated that the law upon this subject now is, that while the ownership by a railroad company of shares of the capital stock of a mining company does not necessarily create an identity of corporate interest between the two such as to render it unlawful under the commodities clause for the railroad

> company to transport in interstate commerce the products of such mining company, yet where such ownership of stock is resorted to, *not for the purpose of participating in the affairs of the corporation in which it is held in a manner normal and usual with stockholders,* but for the purpose of making it a mere agent, or instrumentality or department of another company, the courts will look through the forms to the realities of the relation between the companies as if the corporate agency did not exist and will deal with them as the justice of the case may require."

See also *Porter* v. *Pittsburgh Bessemer Steel Co.*, 120 U. S. 649, 670; *United States* v. *Lehigh Valley R. R. Co.*, 220 U. S. 257, 274.

In this case it does not appear that petitioner has exercised "control" even to the extent regarded in the above-cited cases as normal to the stockholder relation. The Commission expressly found that petitioner "leaves operations and operational policy to the management of its subsidiaries" (R. Vol. I, 100-101). What does appear is that, in the practice of its policy of local autonomy for its public-utility operating subsidiaries, it has sought to use its voting power to assure good local management which has had the genuine responsibility of conducting operations; that it has furnished financial advice and assistance; and has sponsored the interchange of valuable operating information among the subsidiaries.

These are the things which owners of property, be they corporations or individuals, ordinarily do to promote the sound development of their investments. They are the normal incidents of ownership of securities. If the Commission's contentions here were accepted, every individual

owning substantial security interests in corporations engaged in interstate commerce would himself be deemed on that account to be so engaged, and all his property interests of whatever nature would be held at the sufferance of Congress. He could be required by Congress to divest himself of all his properties except one, including his own home, as petitioner here has been held liable to divestment of its office building, not because his ownership thereof had any effect on interstate commerce but because, among his property interests, he owned ten percent of the voting stock of some company that was engaged in interstate commerce, and was not able to satisfy the Commission that he did not have a "latent power", albeit wholly unexercised, to influence the management by advice or that there was not some other unspecified reason why it was "necessary or appropriate in the public interest" that he should not own so much property.

b. The Commission's argument based on use of instrumentalities of interstate commerce.

If the exercise by an owner of corporate securities of the rights normally incident to ownership of such investments (such as influencing the choice of competent management for the corporation, assisting it in securing adequate financing, and the like) is not commerce, it does not become so because he uses interstate trains or interstate telephone and telegraph lines or the mails to maintain contact with his property interests.

The act of communicating may be subject to appropriate regulation by Congress. But it by no means follows, and it is not the law, that the ownership of the property is sub-

ject to the control of Congress just because that ownership is facilitated by such communication. *Federal Baseball Club of Baltimore, Inc.* v. *National League of Professional Baseball Clubs, et al.*, 259 U. S. 200 was a treble damage suit under the anti-trust laws against the National League and the American League for conspiring to monopolize the baseball business and in the course thereof destroying the Federal League. Mr. Justice Holmes, writing for a unanimous Court, said (pp. 208-209):

> "The business is giving exhibitions of base ball, which are purely state affairs. It is true that, in order to attain for these exhibitions the great popularity that they have achieved, competitions must be arranged between clubs from different cities and States. But the fact that in order to give the exhibitions the Leagues must induce free persons to cross state lines and must arrange and pay for their doing so is not enough to change the character of the business. According to the distinction insisted upon in *Hooper* v. *California,* 155 U. S. 648, 655, the transport is a mere incident, not the essential thing. That to which it is incident, the exhibition, although made for money would not be called trade or commerce in the commonly accepted use of those words. As it is put by the defendants, personal effort, not related to production, is not a subject of commerce. That which in its consummation is not commerce does not become commerce among the States because the transportation that we have mentioned takes place."

Nor is petitioner's ownership of the securities of other corporations brought under the control of Congress because of the fact that relations between it and its own out-of-

state security holders, such as transmittal of interest, dividends, proxies, notices of meetings, etc., are accomplished by the use of interstate mails or facilities of interstate commerce, as the Commission appears to argue in footnote 12 at pages 20-21 of its brief.* Apparently the Commission, in this passage, is contending that a corporation may constitutionally be subjected to the requirements of Section 11 (b)(1) for no other reason than that it was required to register under Section 4 (b) because it had distributed securities by means of an interstate public offering at some time since January 1, 1925, and some of such securities are owned by persons not resident in the same state in which the holding company is organized. (See also the argument at Brief, p. 28.) This is an extreme application of the unsound thesis that because a corporation uses interstate facilities of communication for any purpose it is subject to the control of Congress for all purposes.

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*In this footnote (Br. p. 20) there is a blind reference to the postal power of Congress. The Commission says that it does not understand that we question its conclusion that, "if the relation of holding companies to interstate commerce will sustain the validity of requiring registration under the commerce clause, a similar relation to the use of the mails will sustain similar regulation under the postal power". The reference is blind because the footnote is to a discussion of the application of Section 11 through the requirement of registration under Section 4 (a). If all the Commission means is that use of the mails will sustain appropriate regulation of such use, we have no quarrel with the statement. But if the Commission has vaguely in mind some such *non sequitur* as that, since (i) if a holding company uses the mails for certain purposes Section 4(a) compels it to register, and since (ii) if it registers it is subject to Section 11 (b)(1), therefore (iii), the postal power supports Section 11 (b)(1), we emphatically dissent. "* * * Congress may not exercise its control over the mails to enforce a requirement which lies outside its constitutional province, * * *" (*Electric Bond & Share Co.* v. *Securities and Exchange Commission*, 303 U. S. 419, 442).

If the relationship of the holding company to the subsidiaries does not constitute commerce by reason of permissible identification of their activities with it, it does not come under the control of Congress for purposes of compulsory divestment of its ownership of securities because of its use of interstate mails, telephones or telegraphs in the maintenance of whatever relationship it has.

The Commission argues (Br. p. 83) that the abuses and and opportunities for abuse which Congress found to be inherent in the utilities holding company system depend upon the employment of interstate commerce; and that in these circumstances Congress was at liberty to exercise its power under the commerce clause in an effort to eliminate or ameliorate those abuses. But no question is here involved regarding the legitimacy of so regulating the use of the channels of interstate commerce that such use will not further such abuses. That has been done through provisions of the Act other than Section 11 (b) (1). Sections 6 and 7 deal with security transactions, Section 8 with acquisitions of interests in electric and gas utility companies, Section 9(a)(1) with acquisitions of securities and utility assets and other interests, Section 12 with intercompany loans, dividends, security transactions, sale of utility assets, proxies and other transactions, and Section 13 with service, sales and construction contracts. These sections forbid, either unqualifiedly or unless permitted by the Commission, the effectuation of the various transactions specified therein by use of the mails or any means or instrumentality of interstate commerce.

What the Commission seems to be really arguing on this head, and what it must argue to support Section 11 (b) (1), is that Congress is entitled under the commerce power

to require the disintegration of all existing property ownerships, whether or not they themselves affect interstate commerce, for the reason that their accumulation has been accomplished, or at least facilitated, by use of the mails and the instrumentalities of interstate commerce. No such theory has ever been upheld, and we know of no other act of Congress which has even been based upon an assertion of such a power. The consequences of recognition of any such theory would be without limit. There are few instances in which substantial aggregations of property interests can be built up, either by corporations or by individuals, without the use of the mails or instrumentalities of interstate commerce. It has never been supposed that that fact gives Congress the power to require their owners to dispose of them because it believes that the general welfare would be promoted thereby.

The attempted analogy to the anti-trust laws and the commodities clause of the Hepburn Act (Br. pp. 84-85) wholly fails for the reasons shown in our main brief (pp. 48-51). Where divestment of properties is required by a decree under the former act, or becomes necessary under the latter act if a carrier desires to continue to carry coal, it is solely because a court has found that the continued ownership itself affects interstate commerce to the required degree. Neither act says anything about divestment of properties. Both prescribe rules "by which commerce is to be governed", (*Gibbons* v. *Ogden*, 9 Wheat. 1, 196) and any interference with property rights is merely an incident to the enforcement of those rules. Section 11 (b) (1) provides no rule for interstate commerce. It applies whether or not the forbidden ownerships have any effect on interstate commerce, as we show at length in the discussion in

our main brief, to which the Commission makes no very serious answer; the rule which it prescribes is one, not by which commerce is to be governed, but by which property ownership is to be governed. It is impossible to bring such a rule within the commerce power on the ground that those who are to be subjected to it either use or have used instrumentalities of interstate commerce.

A statute prescribing the conditions upon which property may be owned can be upheld under the commerce clause only if the very status of ownership is found to have such an effect upon interstate commerce as to bring it within reach of the power of Congress.

c. The Commission's argument on the alleged declaration by Congress.

On this branch of the case, the Commission significantly minimizes the supposed congressional declaration in Section 1 of the Act. Major emphasis is placed upon its argument (Br. p. 29) that the mere enactment of Section 11(b)(1) requiring compliance by all registered holding companies was itself a finding that all of them so affect interstate commerce that it is proper to apply its provisions to them. It says (Br. p. 30) "That determination is inherent in the enactment of the statute itself".

In attempted support of this proposition, the Commission (Br. p. 31) refers to *United States* v. *Ferger*, 250 U. S. 199, and *Virginian Railway Co.* v. *Federation*, 300 U. S. 515, which were cited by this Court in *United States* v. *Darby*, 312 U. S. 100, 121, following its statement of the third category of legislation therein enumerated (our Main Brief, pp. 12-13), and also to *Colorado*

v. *United States*, 271 U. S. 153. It says that the statutes sustained by those cases contain no statement by Congress that the activity regulated was related to interstate commerce, so that the finding must have been implied from their mere enactment and "from the character of the regulation applied". The quoted qualification shows the inappositeness of the reference as support for the proposition advanced by the Commission as applied to Section 11(b)(1).

The statute upheld in *United States* v. *Ferger, supra*, was "An Act relating to bills of lading in interstate commerce", and purported to protect "the vast volume of interstate commerce operating and moving in reliance upon genuine bills of lading" (p. 205) by the suppression of spurious ones. It required no declaration that the suppression of spurious bills of lading was a protection to the conduct of interstate commerce under genuine bills.

The Railway Labor Act upheld in *Virginian Railway Co.* v. *Federation, supra*, is far from being an instance where Congress left its determination that interstate commerce was affected wholly to such implication as might be derived from the mere enactment of the operative provisions. As this Court pointed out (300 U. S., p. 553):

> "* * * The Railway Labor Act, §2, declares that its purposes, among others, are 'To avoid any interruption to commerce or to the operation of any carrier engaged therein,' and 'to provide for the prompt and orderly settlement of all disputes concerning rates of pay, rules or working conditions.' The provisions of the Act and its history, to which reference has been made, establish that such are its purposes, and that the latter is in aid of the former."

(See our discussion in this case, Main Brief, pp. 40-41.)

Colorado v. *United States, supra,* is not properly cited as belonging to the category of legislation where the only finding of effect upon interstate commerce is that made by Congress itself. That case involved an attack upon the validity of a certificate issued by the Interstate Commerce Commission under the Interstate Commerce Act, as amended by the Transportation Act, that present and future public convenience and necessity permitted the abandonment of an intrastate branch line. The grounds on which the Interstate Commerce Commission granted the certificate permitting abandonment included that for years operation of the branch had resulted in large deficits, that future operation would likewise result in large deficits, that these deficits would have to be made up by the railroad, and that "thus continued operation would constitute an undue burden upon interstate commerce" (271 U. S. p. 160, and discussion of such reasons, p. 163). The Court said (p. 167):

> "* * * As every projected abandonment of any part of a railroad engaged in both interstate and intrastate commerce may conceivably involve a conflict between state and national interests, the consent of the Commission must be obtained by the railroad in every case."

The case was therefore one in the second category enumerated in the *Darby* case where Congress leaves it to an administrative agency to determine the effect of a particular activity upon interstate commerce.

The statutes to which this Court referred in the *Darby* case as falling within the third category clearly showed their

interstate-commerce purpose. The unequivocal congressional declaration in the Fair Labor Standards Act of 1938 is quoted in our main brief (pp. 36-37). The declaration of purpose in the Railway Labor Act has already been quoted in our discussion (*supra*) of the *Virginian Railway* case. The third act referred to, the Safety Appliance Act, originally applied only to common carriers engaged in interstate commerce by railroad (27 Stat. 531). It was amended (32 Stat. 943) to "apply to all trains, locomotives, tenders, cars and similar vehicles used *on any railroad engaged* in interstate commerce". This amendment was upheld in *Southern Ry. Co.* v. *United States,* 222 U. S. 20, the court saying (p. 27):

> "Speaking only of railroads which are highways of both interstate and intrastate commerce, *these things are of common knowledge*: Both classes of traffic are at times carried in the same car and when this is not the case the cars in which they are carried are frequently commingled in the same train and in the switching and other movements at terminals. Cars are seldom set apart for exclusive use in moving either class of traffic, but generally are used interchangeably in moving both; and the situation is much the same with trainmen, switchmen and like employes, for they usually, if not necessarily, have to do with both classes of traffic. Besides, the several trains on the same railroad are not independent in point of movement and safety, but are interdependent, for whatever brings delay or disaster to one, or results in disabling one of its operatives, is calculated to impede the progress and imperil the safety of other trains. And so the absence of appropriate safety appliances from any part of any train is a menace not only to that train but to others."

When the relation of an enactment to interstate commerce is self-evident, as in the legislation upheld in the *Ferger* case, or can be readily discerned from facts of common knowledge, as in the case of the Safety Appliance Act, no finding by anyone, court, administrative agency or Congress, is necessary to support its validity. But the mere enactment of a statute asserting Federal power to divest ownership of stocks cannot conceivably fall within such a rule. Ownership is something the incidents of which may or may not affect interstate commerce. It would, therefore, be contrary to the facts to attempt to assimilate this Act to the acts upon which respondent relies, namely, acts where the Congress might legitimately regard the effect on interstate commerce as so obvious that it could be taken for granted.

Moreover, this is not a case where Congress simply passed a statute and left the grounds of its enactment to presumption. It is a matter of common knowledge that Congress entertained grave doubt as to the constitutionality of Section 11 (b), and the elaborate recitals in Section 1 constitute a studied effort to make findings which would, so far as possible, support constitutionality.

The Commission's argument based on the declarations contained in Section 1 is unimpressive. It emphasizes the declaration that when the "abuses" referred to in Section 1(b) "become persistent and widespread the holding company becomes an agency which, *unless regulated,* is injurious to investors, consumers and the general public". But the Act does provide, in sections other than 11(b)(1), for such regulation, and the natural interpretation of the quoted phrase is that it explains the purpose of those regulatory provisions.

The final declaration of intention "to compel the simplification of public-utility holding-company systems and the elimination therefrom of properties detrimental to the proper functioning of such systems, and to provide as soon as practicable for the elimination of public-utility holding companies except as otherwise expressly provided in this title" seems to be based upon the supposition, the fallacy of which we have discussed in the preceding subdivision, that, even in the absence of an interstate-commerce policy, any company which uses the mails or instrumentalities of interstate commerce may be controlled by Congress not only with respect to such use but in any other way that Congress sees fit. Indications of this theory appear in the reasons given in Section 1(a) why holding companies and their subsidiaries are affected with a national public interest. The first three rely on the use of the mails and instrumentalities of interstate commerce. The fourth is that "their practices in respect to and control over subsidiary companies often materially affect the interstate commerce *in which those companies engage.*" But this again refers to "practices" rather than the ownership of the securities itself. And it does not explain the provisions of Section 11(b)(1) which require the divestment of securities in subsidiaries which are not engaged in interstate commerce. Neither does the fifth, relating to the ineffectiveness of control by any state, explain the necessity for the divestment of securities of companies with respect to which there is no such difficulty.

In fact, reliance upon the use of the mails and facilities of interstate commerce is the only common denominator upon which the requirements of Section 11 (b) (1) can rest. Take the systems of the Cleveland Electric Illuminat-

ing Company, the Pacific Gas and Electric Company and the Detroit Edison Company, of all of which petitioner is directed to divest itself. No "practice" of petitioner in respect of them, and no "control" over them, assuming that any such control exists (see Commission's brief, pp. 31-32, footnote 18), can affect any interstate commerce "in which those companies engage" because they engage in none. And they are susceptible of effective control by the states of Ohio, California and Michigan in which their businesses respectively are wholly confined. It is true that to communicate and maintain contact with them petitioner must use interstate mails, trains and telephone and telegraph lines. But that is the only connection with interstate commerce that Section 1 discloses. Take the North American Utility Securities Corporation, a small investment company, or the 60 Broadway Corporation in which petitioner has its offices. On what possible interpretation of Section 1 can it be said to be a declaration by Congress that the prohibition of ownership of the securities of such corporations is for interstate-commerce reasons?

The arresting distinction between Section 11 (b)(1) and any other statute the validity of which under the commerce power has been upheld by this Court is that it does not purport to prescribe a "rule by which commerce is to be governed" (*Gibbons* v. *Ogden, supra*). And, read as a whole, there is nothing in Section 1 which declares the intention of Congress to enact Section 11 (b) (1) as such a rule. The rule which is enacted is one to prescribe the conditions upon which certain types of property may be owned. Not only is Section 11 (b) (1) part of an Act which this Court has expressly held to be separable (*Electric Bond & Share Co.* v. *Securities and Exchange*

Commission, 303 U. S. 419), but it is an enactment which is distinct in purpose and effect from the other sections of the Act.

The structure of the Act as a whole is quite different from that of the other statutes in connection with which this Court has applied the rule that the commerce power extends to those activities intrastate which so affect interstate commerce, or the exercise of the power of Congress over it, as to make regulation of them an appropriate means for the regulation of interstate commerce. Such statutes have usually prohibited or regulated certain transactions in interstate commerce, and included or added a concomitant regulation or prohibition of similar transactions which are not in interstate commerce but are deemed to have a sufficient effect thereon as to require this. The interstate and intrastate transactions affected being of the same general character, are usually so inter-related that it is impossible to control the former without controlling the latter. Such was the case, for example, with respect to statutes providing for regulation of agricultural commodities or products "in the current of interstate or foreign commerce or which directly burden, obstruct or affect that commerce", considered in *United States v. Rock Royal Cooperative, Inc.*, 307 U. S. 533, and *United States* v. *Wrightwood Dairy Co.*, 315 U. S. 110, or "to provide an adequate and balanced flow of agricultural commodities in interstate and foreign commerce", like the act upheld in *Wickard* v. *Filburn*, 87 L. Ed. 57, or regulating sales on the exchange of the Chicago Board of Trade which occasioned the Grain Futures Act, upheld in *Chicago Board of Trade* v. *Olsen*, 262, U. S. 1 (Commission's Brief, p. 33). In such cases it is enough that the intrastate condition regulated "from

time to times does, directly burden and obstruct commerce between the States in grain, and that it recurs and is a constantly possible danger" (262 U. S., p. 40).

But these principles do not apply when a prohibition of intrastate matters or matters which are not commerce at all is not ancillary to a regulation of interstate commerce. No presumption can be indulged, that such an act is necessary to protect interstate commerce. Here the congressional finding of the required effect upon interstate commerce must relate clearly and unequivocally to the particular subject of property ownership. There is no such finding. It would not be sufficient for a statute like this to find, even if there were such a finding, that some such ownerships "often" have such effect. But the declarations in Section 1 do not even find that, for they speak only of "practices" of a wholly undefined nature, and "control" without specification of what is meant by that term, and do not declare that such "practices" and "control" even "often" materially affect interstate commerce except where the companies whose stocks are owned are engaged in interstate commerce.

The very fact that the conception of "interstate commerce" is one of degree (*Santa Cruz Fruit Packing Co.* v. *National Labor Relations Board,* 303 U. S. 453, 467) emphasizes that the more drastic and pervasive is the attempted prohibition, the more imperative it is that the necessity for it,—for the protection of interstate commerce and not merely for the general welfare,—clearly appear. There must be some point at which the commerce power of Congress stops. There would be none if declarations such as those in Section 1 here relied on were held conclusive. For, considering the complexities of social and economic relations in this country, it would be difficult to conceive of any condi-

tion which could not be said "often" to have some effect outside of the state in which it obtains. Since, if a particular subject matter be held to be within the commerce power, the control of Congress over it is plenary, and exclusive if it desires to make it so, few things would remain within the control of the states if Congress chose to preempt the field.

d. The Commission's argument based on "the conservative tradition of federalism".

The Commission's argument here (Br., pp. 75 *et seq.*) apparently is that Congress did not by this Act preempt the field as completely as it might constitutionally have done under the commerce power. But, whatever the purpose, the argument that "the Act, and Section 11 (b) in particular, are in the conservative tradition of federalism" cannot be accepted.

The specifications of the Commission's contention are contained in footnote 42 (Br., pp. 75-76). They may tend to support the observation so far as some of the regulatory provisions of the Act are concerned, but they utterly fail to support it with respect to "Section 11 (b) in particular".

The only thing that the Commission can find to say about Section 11 (b) (1) is that one of the standards, (C), which govern the permissibility of retention of additional public utility systems requires that such additional systems shall not be so large as to impair, among other things, "the effectiveness of regulation". But that is only one of three standards, all of which must be met to qualify for retention an additional integrated system; the other two have no relation to state regulation. And even as to (C) its

terms, like the other provisions of Section 11 (b)(1), may, as was the case in this very proceeding, permit the retention of an interstate system where all of the difficulties of centering control of its utility operations in a single state obtain, while denying permission to retain several utilities, each a completely local utility and doing business in a single state which, of course, has complete power of regulation.

A far more important violation of "the conservative tradition of federalism", however, lies in the unquestionable fact that Section 11 (b)(1) effectively denies to the states any power to prescribe the rules governing who shall be permitted to own the securities of corporations subject to their laws. There was with respect to this subject no "no man's land" which required congressional intervention. Any state, in the absence of federal legislation, has the right to legislate that voting stock of corporations of its creation shall not be owned by foreign corporations., *Mannington* v. *Hocking Valley Ry. Co.*, 183 Fed. 133, 156, 157 (C. C. S. D. Ohio) and decisions of this Court cited therein. Different states may feel differently on this subject and due regard for the federal system would leave each state to make its own choice. Many a state may well feel that the influence of holding companies in voting the stock held by them in utility operating companies in favor of well-qualified directors, and assistance in financing and technical advice, is beneficent and on the whole promotes the successful operation of the utilities with corresponding benefit to the citizens of the state. Section 11 (b)(1) makes it impossible for them to adopt and follow that policy.

It may be an appropriate exercise of the federal principle for Congress to supplement state laws by prohibiting the use

of facilities of interstate commerce in such manner as to occasion abuses, as Congress has done in certain sections of this Act other than Section 11 (b)(1). But it is not "in the conservative tradition of federalism" to preempt control of ownership itself, which has been traditionally considered a matter for determination by the states.

II. THE FIFTH AMENDMENT.

The only parts of the Commission's argument under the due process clause of the Fifth Amendment which require reply are: (1) its attempt to distinguish the case of *Louisville Joint Stock Land Bank* v. *Radford*, 295 U. S. 555 and (2) its attempt to show that enforcement of the order will not in fact visit loss upon petitioner and its stockholders.

The attempt to distinguish the *Radford* case is upon the grounds (Br. p. 88) that the order in question does not take property from any person and give it to another, and that petitioner's security holders who now own interests in petitioner's subsidiaries indirectly through investment in petitioner will, on compliance with the order, hold those same investments in a different form or they will receive cash in full compensation for those investments.

As to the first ground, it was held that the Frazier-Lemke Act, which was an exercise of the bankruptcy power of the United States, could not deprive a mortgagee of rights which he had under state law; that "If the public

interest requires and permits the taking of property of individual mortgagees to relieve the necessities of individual mortgagors, resort must be had to proceedings by eminent domain." (p. 602) So here, if the "national public interest" demands that part of the property of North American be taken from it and transferred to debenture-holders and preferred stockholders when they have no present right to be paid off, the loss sustained by North American and its common stockholders must be compensated for in proceedings in eminent domain, just as in the *Radford* case the loss sustained by the mortgagee through the deprivation of his rights was required to be compensated for.*

As to the second asserted ground of distinction above stated, it is not correct to say that petitioner's stockholders will after enforcement of the order hold the same investments in a different form or will receive cash in full compensation for those investments. Entirely apart from the necessity of paying off over $100,000,000 of senior securities, either in cash or in securities in kind at present valuations comparable to the amounts of cash to which they would become entitled on maturity, the common stockholders cannot receive the same investment in any form because the cardinal element of the investment, the benefit of common management of diversified investments, is destroyed. (See our Main Brief, pp. 60-62). If, as the Commission argues (Br. p. 90), Congress concluded that the economic

*There is nothing in the later case of *Wright* v. *Vinton Branch*, 300 U. S. 440, upholding the second Frazier-Lemke Act which in the slightest degree impairs the authority of the *Radford* case. The opinion in the later case was written by the same justice and its ground was that the full substance of the property rights of which the first Act had deprived the mortgagee were preserved to him in the second Act.

advantages from the continuance of holding company ownership of securities of operating utility companies were not commensurate with the economic, social and political disadvantages, its constitutional course under the doctrine of the *Radford* case was to resort to condemnation so that, through taxation, the burden of such promotion of the public interest might be borne by the public.

Petitioner's common stockholders cannot receive full compensation for their investments because, among other things, of the enormous destruction of values which will inevitably attend forced dispositions of underlying securities to satisfy the legal claims of holders of petitioner's debentures and preferred stocks (our Main Brief pp. 64-65). Nothing in the Commission's brief presents any satisfactory explanation of how the claims of holders of something over $100,000,000 of these senior securities may be discharged without such sacrifices.

The Commission refers (Br., p. 91) to the reorganization machinery provided in Sections 11 (d) and 11 (e). But for any plan under those sections to be approved it must be found "fair and equitable". With respect to footnote 48 (Br., p. 92), since petitioner is amply solvent by every test, no plan which required debenture holders and preferred stockholders to take less than the dollars to which they are entitled, or securities of a value less than the face amount of their claims, would, we assume, be found "fair and equitable". Even in bankruptcy, if petitioner were insolvent, a plan which provided for less than full payment to them before anything went to common stockholders, in the absence of contribution in money or in money's worth on the latter's part, would be unfair under the rule of priorities enunciated in *Case* v. *Los Angeles Lumber Products Co., Ltd.*, 308 U. S. 106. The debenture holders

and preferred stockholders will not *voluntarily* take securities in place of dollars unless at values at which the securities can, in their opinion, be liquidated in sufficient volume to produce the dollars to which they are entitled. To require them to take less, in the interests of preserving more value for the common stockholders, would merely shift the deprivation of property without due process, which enforcement of Section 11 (b)(1) accomplishes, from the common stockholders to the debenture holders and preferred stockholders.

If the divestment is effected by a plan of reorganization which calls for exchanging underlying stocks for petitioner's debentures and preferred stocks, those underlying stocks must be valued for the purpose on a basis which will be tantamount to a forced liquidation at the expense of the common stockholders (see our Main Brief pp. 64-65). To point out that this basis of liquidation is "fair and equitable" as between the senior security holders on the one hand, and the common stockholders on the other hand, is to beg the question. The Commission and the courts may competently determine the relative fairness of the distribution involved in the plan as between the two groups of security holders, but they are powerless to preserve for the common stockholders the real and important factors of value in their stock which are destroyed by the break-up of the holding company (see our Main Brief pp. 61-63) and to prevent the further loss to the common stockholders which would follow from the forced liquidation, regardless of whether the senior security holders are paid off in cash or by distribution of underlying assets in kind (see our Main Brief pp. 64-65).

The point is not, as the Commission seems to suppose (Br. p. 95), whether the present market is probably lower or higher than it will be in future. The point is that the effect of Sections 11 (b), (d) and (e) is to force petitioner into a "reorganization", which is not a continuation of the enterprise, but is a break-up of the solvent going enterprise, with the inevitable losses to the common stockholders attendant upon that break-up.

The point is also not, as the Commission seems to suppose (footnote 45, Br. pp. 88-89), whether the estimated liquidating value of the common stock of petitioner on a certain date, as computed by a statistician, was greater or less than the market price of the common stock of petitioner on that date. Such computations involve so many variables and perforce involve so much guess work, that they are not relied upon even by speculators, as proved by the fact that the actual purchases and sales on the market, cited by the Commission, are at prices which bear no realistic relation to the computations. Many of petitioner's underlying assets are closely held and have no quoted market value. The market time lag between the date of such computations and the prospective date of realization, the uncertainties involved in the market reaction to the forced release of very large blocks of stocks and the uncertainties involved in the settlement of large unliquidated claims at once destroy the specious certainty of the figures cited by the Commission. Such computations are designed to appeal to speculators and do not in any way disprove the very real destruction of values and consequent losses which must be borne by petitioner's common stockholders as *investors* in a going enterprise lawfully established fifty-three years ago and lawfully conducted since then.

Finally must be considered the argument of the Commission (Br. pp. 95-96) that, although since 1935 peti-

tioner has been on notice that it must limit its operations in accordance with Section 11, it has not chosen to avail itself of the provisions of Section 11 (e), but has waited until ordered to comply with Section 11 (b)(1). The argument apparently is that petitioner has only itself to blame for any "market loss" resulting from not picking the highest market which occurred after 1935 and not selling or distributing its assets on that market. Petitioner has already shown that a conception of loss to the common stockholders, based merely on market conditions at the time of divestment, is inadequate and fallacious.

But, apart from that, certainly petitioner's management cannot fairly be criticised for not voluntarily incurring the destruction of values which compliance at any time would have entailed (see our Main Brief, pp. 64-65). As this Court, by Mr. Justice Cardozo, said in *Landis et al.* v. *The North American Company*, 299 U. S. 248, 256:

> "* * * In these Holding Company Act cases great issues are involved, great in their complexity, great in their significance. On the facts there will be need for the minute investigation of intercorporate relations, linked in a web of baffling intricacy. On the law there will be novel problems of far-reaching importance to the parties and the public."

A board of directors and a management which permitted the visitation upon stockholders of the losses which would be entailed by voluntary compliance with an act of such doubtful validity, without first appealing to the courts, might well be chargeable with default in their fiduciary obligations. *Pollock* v. *Farmers' Loan & Trust Co.*, 157 U. S. 429; *Hill* v. *Wallace*, 259 U. S. 44; *Ashwander* v. *Tennessee Valley Authority*, 297 U. S. 288, 319.

III. CONCLUSION.

The Commission's brief narrates many interstate activities which are imputed to petitioner, mostly without reference to the Record, and which are imputed to other holding companies. Many of these are of a kind that would be engaged in by any large investor.

It may be conceded, for present purposes, that many such activities may be subject to federal regulation. Indeed, as we have shown in our main brief (pp. 67-70) they have, so far as utility holding companies are concerned, been very completely subjected to federal regulation. This is accomplished by sections of the Act other than Section 11(b)(1). The heart of Section 11(b)(1) is not regulation of any interstate activity, but is divestment of ownership. It is *ownership per se* that is struck at as something that is subject to be ordered about, and shifted hither and thither, at the bidding of an agency of the federal government.

Congress made no finding that utility holding company ownership *per se* affects interstate commerce. There was a constitutional necessity of limiting the scope of Section 11(b)(1) to situations and activities such as have in fact a material effect on interstate commerce. This constitutional requirement is, we have seen, not met by limiting Section 11(b)(1) to "registered" holding companies—for holding companies were required to register if, for example, they had outstanding any security which, by use of the mails, had been distributed ten years before the enactment of the Act. Nor, as we have seen in our main brief (pp. 21-24), is such constitutional requirement met by the exemption possibility provided by Section 3(a).

In fact the Congress, although making clear that utility company ownership did not necessarily involve any material effect on interstate commerce, failed to reflect that fact by either limiting the scope of Section 11(b)(1) or limiting the applicability of Section 11(b)(1) to cases where such a finding would be made.

The Commission has accordingly made no finding that the different ownerships of which the petitioner is required to be divested each and all affect interstate commerce, nor could it possibly have made any such finding as regards them all. The court below was not requested to make any such finding. Indeed, no such finding could be made except upon facts so tenuous that, if they were held legally adequate, there would be demolished completely all effective demarcation between federal and state authority.

Our argument is not a technical one. Our complaint is that we are denied the opportunity to make that showing to which due process would entitle us. If Congress had required as a precedent to Section 11(b)(1) action a finding that the ownerships dealt with adversely affected interstate commerce, then there would have been the opportunity, which so far has been denied to petitioner, to show that its ownership of various securities and its practices in relation thereto have been such as not so to affect interstate commerce as to permit destruction of the enterprise through resort to the commerce clause, and indeed that its policies as owner have not been of the character that the Commission's brief insinuates with reference to the petitioner and charges with respect to other utility holding companies which may have adopted policies quite different from those of The North American Company.

None of these questions were at issue in the proceedings before the Commission herein, nor was the Commission willing to make them the subject of findings, this not being contemplated by the Act. This substantive defect is fatal from the standpoint of constitutionality, both under the interstate commerce clause and under the due process clause.

Respectfully submitted,

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April, 1943.

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IN THE

Supreme Court of the United States

OCTOBER TERM—1945

No. 1

THE NORTH AMERICAN COMPANY,
Petitioner,

against

SECURITIES AND EXCHANGE COMMISSION,
Respondent.

ON WRIT OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE SECOND CIRCUIT

SUPPLEMENTAL BRIEF OF PETITIONER

CHARLES E. HUGHES, JR.,
Counsel for Petitioner.

SULLIVAN & CROMWELL,
Of Counsel.

Nov. 5, 1945.

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Respondent herein, in its brief in the *Engineers Public Service Company* cases (Nos. 2 and 3, October Term, 1945) refers to recent decisions, and makes additional argument, which it deems pertinent to the issue under the Commerce Clause, in view of the fact that the briefs herein were filed two and one-half years ago (Resp. Br. in Nos. 2 and 3, pp. 5, 33-42).

The purpose of this supplemental brief is similarly to bring up to date the brief and reply brief of petitioners herein.

Discussion of the Commerce Clause cases decided by this Court since the briefs herein were written may start with the insurance cases, *United States* v. *Southeastern*

Underwriters Association, 322 U. S. 533, and *Polish National Alliance* v. *National Labor Relations Board*, 322 U. S. 643, decided the same day, one under the Sherman Anti-Trust Law and the other under the National Labor Relations Act.

The *Southeastern Underwriters* case was an appeal from a dismissal of an indictment which charged restraint of interstate trade and commerce by the fixing and maintaining of arbitrary and non-competitive premium rates on certain lines of insurance and monopolizing trade and commerce in such insurance. The indictment charged, among other things, that by continuing agreement and concert of action the conspirators not only fixed premiums, but employed boycotts and other types of coercion and intimidation to force non-member insurance companies to join the conspiracy, and to compel persons who needed insurance to buy only from members of the Association on terms fixed by the Association; persons who purchased insurance from non-members were threatened with boycotts and withdrawal of patronage. Non-members were cut off from opportunity to reinsure their risks, and agents who represented non-members were denied the right to represent member insurance companies. The conspiracies were effectively policed by local inspection and rating bureaus and by local boards of insurance agents. This "kind of interference with the free play of competitive forces" was, as the majority opinion said (322 U. S. p. 536), "exactly the type of conduct which the Sherman Act has outlawed for American 'trade or commerce' among the states". The demurrer was on the ground that because "the business of fire insurance is not commerce" appellees were not required to conform to the Sherman Act (*ibid.*).

The essential basis of this Court's decision was its interpretation of the decision of the District Court. The majority opinion carefully differentiates between the activities alleged in the indictment and the insurance contracts as such. It said (322 U. S. p. 536-537) that the District Court's opinion contained not the slightest intimation that the indictment was held defective "on a theory that it charged the appellees with restraining and monopolizing nothing but the making of local contracts"; that there was not even a demurrer on that ground. It pointed out (*id.* p. 548) that "for Constitutional purposes, certain activities of a business may be intrastate and therefore subject to state control, while other activities of the same business may be interstate and therefore subject to federal regulation". And the conclusion of the part of the opinion dealing with the constitutional question was as follows (*id.* p. 553):

> "No commercial enterprise of any kind which conducts its activities across state lines has been held to be *wholly** beyond the regulatory power of Congress under the Commerce Clause. We cannot make an exception of the business of insurance."

The Sherman Act falls within the first category of instances of Congressional regulation enumerated in *United States* v. *Darby*, 312 U. S. 100, 120-121 (quoted in our Main Brief pp. 12-13), where the Congress has left it to the courts to determine whether the activities sought to be regulated or proscribed affect interstate commerce. In the *Southeastern Underwriters* case, the court had before it activities which presumptively would have such effect, un-

*All italics in quotations in this brief are supplied unless otherwise noted.

less it were prepared to hold that *no* part of the activities of insurance companies, as distinguished from the mere writing of insurance contracts, could ever under any circumstances restrain interstate commerce. This Court was unwilling to establish a rule which would foreclose inquiry by the courts on that subject. But the case is far from holding that all aspects of the insurance business are "in commerce" or even "affect" commerce.

The distinction between what is "in" and what merely "affects" commerce is sharply brought out by this Court's decision in the other insurance case, *Polish National Alliance* v. *National Labor Relations Board*, *supra*, where regulation of labor practices of an insurance company was upheld under the National Labor Relations Act. That Act, this Court said, exerted the full constitutional power of Congress, and hence the judicial inquiry was whether constitutional limits had been exceeded (322 U. S., pp. 648, 650). The Labor Board had made two findings, one that the company was "engaged *in commerce* within the meaning of the Act", and the other that its practices "have a close, intimate, and substantial relation to trade, traffic and commerce among the several states and tend to lead to labor disputes burdening and obstructing commerce" (*id.* pp. 651, 646). The majority opinion in this Court grounded its decision that the regulation was valid solely on the latter finding. Its conclusion (*id.*, p. 648) was "that the Board was not unjustified in finding that the unfair labor practices found by it would *affect* commerce". The concurring opinion of a minority of the Court insisted that the regulation of petitioner's labor practices should not be placed upon the ground "that petitioner's insurance activities merely *affected* commerce in types of interstate business other than its own" (*id.*, p. 651). But it is obvious from the limited ground

upon which the majority rested its decision that it was unwilling to accept that view.

The recent insurance cases therefore tend strongly to confirm the premise of the argument in our main brief and reply brief that, contrary to respondent's contention, a public utility holding company's ownership of stocks, which is all that Section 11(b)(1) deals with, is not of itself commerce; and that an enactment proscribing such ownership of property may not be upheld as an exercise of the commerce power unless it falls within the rule that even things that are local, or not commerce, may still be reached by Congress if they so affect interstate commerce, or the exertion of the power of Congress over it, "as to make regulation of them *appropriate means* to the attaining of a *legitimate end*, the *effective execution of the granted power* to regulate interstate commerce" (*United States v. Wrightwood Dairy Co.*, 315 U. S. 110, 119).

The only argument, having even superficial appearance of foundation, upon which respondent based its contention that the ownership of public utility stocks by holding companies generally, and North American specifically, is itself commerce, is attempted identification of the holding company with the activities of such of its subsidiaries as are engaged in interstate commerce, in the case of North American about one-half thereof. Respondent grounds that contention on the theory that a holding company, and North American specifically, "controls its subsidiaries and that their acts are its acts" (Resp. Br. in this case, p. 27). We answered that contention in our reply brief, pp. 3-13, and particularly the argument that Sections 2(a)(7) and 2(a)(8), defining "holding company" and "subsidiary company" respectively, prescribe the "test of control". We showed that the test applied by those sections was not that of "control",

in the sense used by respondent, but included criteria, such for example as "controlling influence", which can be and has been found on facts which gave no indication that the acts of the subsidiary could legitimately be deemed those of the holding company. Among the cases discussed in that connection (*id.*, pp. 8-10)* was one, *Pacific Gas & Electric Co.* v. *Securities and Exchange Commission*, 127 F. (2d) 378 (C. C. A. 9), involving a company in the North American system, in which further judicial proceedings have been had since the briefs herein were written.

The petition which was denied in 127 F. (2d) 378 was one by the Pacific Gas & Electric Company to review an order of the Securities and Exchange Commission which denied the company's application for a declaration that it was not a subsidiary of North American. There was thereafter a rehearing by the Circuit Court of Appeals *en banc* (139 F. (2d) 298). The result was an affirmance of the order by an equally divided court. A writ of certiorari was granted by this Court, which affirmed, also by an equally divided court (323 U. S. 826). The only opinion in these subsequent proceedings is the dissenting opinion in the Circuit Court of Appeals. We call attention to it for its elaborate and valuable recital of the facts, as to which there was no dispute. Those facts clearly demonstrated absence of "control", in spite of which the company was held to be under a "controlling influence" of North American within the meaning of the Act, and hence a subsidiary. (See particularly 139 F. (2d) pp. 302-303, 306-307).

*The case of *American Gas & Electric Company* v. *Securities and Exchange Commission*, cited at p. 10 of the reply brief, has since been officially reported, the citation being 134 F. (2d) 633 (C. C. A., D. C.).

In the instant case the Circuit Court of Appeals found (R., Vol. X, 4001) that the business of North American "consists in acquiring and holding for investment stocks and other securities, principally in the electric utility field" and that "at no time has it engaged in the business of managing the operations of its public utility operating subsidiaries". That was consistent with the Commission's finding (R., Vol. I, 100-101, referred to in our Reply Br., p. 4) that "as nearly as can be determined from the record in this case, North American leaves operations and operational policy to the management of its subsidiaries".

In the *Polish National Alliance* case, *supra*, the minority concurring opinion itself recognizes (322 U. S. p. 652) that, in applying the doctrine permitting regulation of activities "not themselves interstate commerce, but merely 'affecting' such commerce" this Court "properly has been cautious, and has required *clear findings* before subjecting local business to paramount Federal regulation".

Under the Sherman Act the finding is made by the Court itself. Under the National Labor Relations Act the finding is made by the administrative agency, subject to review by the Court. Concededly Section 11(b)(1) of the Public Utility Holding Company Act falls within neither of these categories, because there is no provision for a finding by court or administrative body of any effect on interstate commerce resulting from the holding companies' stock ownerships. The only contention possible to support the validity of Section 11(b)(1) is that it falls within the third category of the *Darby* case where "Congress itself has said that a particular activity affects the commerce". We shall not repeat the argument against the soundness of that contention which we advance in our Main Brief, pp. 26-35, and our reply Brief, pp. 18-27. Even the most hopeful

reading of Section 1 of the Act will not disclose any finding —much less a "clear finding"—that ownership by holding companies of the securities of operating companies affects interstate commerce adversely or at all.

It was peculiarly necessary for the validity of legislation of this sort, which did not itself even purport to establish a "rule by which *commerce* is to be governed," that provision be made for a finding by some body, judicial or administrative, that such stock ownership on the part of the company sought to be subjected to the requirements of Section 11(b)(1) had the necessary effect upon interstate commerce. The figures presented by respondent itself (its brief in this case, p. 5) are that only 19.8% of the electric power production for December, 1941, was in interstate movement. Granted that the operations of an intrastate utility company may affect interstate commerce, as for example if it supplies current to interstate carriers, the existence of that fact would have to be found. And facts in addition to that would also have to be found before a conclusion could be justified that the ownership by a holding company of 10% of the stock of an operating company, whether intrastate or interstate, so affected interstate commerce.

In this general connection a new argument is advanced by respondent in its brief in the *Engineers Public Service Company* cases (Nos. 2 and 3), p. 36, based on the separability provision in Section 32 of the Act that

> "If any provision of this title or the application of such provision to any person or circumstances shall be held invalid, the remainder of the title and the application of such provision to persons or circum-

stances other than those as to which it is held invalid shall not be affected thereby."

The argument is (*id.* p. 35) that, even if it be assumed that under some circumstances some company might be subjected to Section 11 whose connection with interstate commerce was too remote to support constitutional power, the only result would be to render the Act invalid as applied to that particular company.

The argument is unsound. A statute which strikes indiscriminately at those who are beyond as well as those who are within the reach of federal power is invalid on its face. It is not permissible to construe it as if the Congress had inserted limiting words that actually are not there. (*United States* v. *Reese*, 92 U. S. 214, 221). The fact that the statute contains a separability clause in the exact language of Section 32 here in question does not change the rule. (*Hill* v. *Wallace*, 259 U. S. 44, 70; *Retirement Board* v. *Alton Railroad Company*, 295 U. S. 330, 362).

While the respondent did not in its brief in this case make a contention corresponding to that which it now advances in Nos. 2 and 3 under the separability provision of Section 32, it did make (p. 24) a related contention which it may seek in oral argument to correlate with Section 32. In connection with the effect of the exemption clause of Section 3(a), it relies on a "policy set forth in Section 1(c) of the Act" which it says is "the policy which the Commission is required to apply in considering exceptions to Section 3(a) exemptions".* The clause cited is:

> "* * * It is hereby declared to be the policy of this title, *in accordance with which policy all the provi-*

*For our argument on Section 3(a), see our main brief, pp. 21-24.

> *sions of this title shall be interpreted*, to meet the problems and eliminate the evils as enumerated in this section connected with public utility holding companies which are *engaged in interstate commerce or in activities which directly affect or burden interstate commerce;* * * *".
> (Italics the respondent's)

We pointed out in our reply brief (p. 6) that this general declaration in Section 1(c) did not limit the application of Section 11(b)(1) to only those public utility holding companies which are engaged in interstate commerce or in activities which directly affect or burden interstate commerce. The provisions of Section 11(b)(1) are so explicit that, even if the above-quoted clause of the declaration stood alone, it could have no effect in limiting them.

We now add that the above-quoted clause, on which respondent relies, does not stand alone. Respondent omits to quote the final clause of Section 1(c) which immediately follows it and which reads:

> "and for the purpose of effectuating such policy to compel the simplification of public-utility holding-company systems and the elimination therefrom of properties detrimental to the proper functioning of such systems, and to provide as soon as practical for the elimination of public-utility holding companies except as otherwise expressly provided in this title."

That contains no qualification based on the relation of the holding companies to interstate commerce, and, since it immediately follows a clause which does the omission is clearly intentional. Its declared purpose to eliminate from holding company systems properties deemed detrimental,

whether or not for reasons related to their effect on interstate commerce, and the elimination of holding companies themselves "except as otherwise expressly provided in this *title*", is consistent with the terms of Section 11(b)(1). Obviously the preceding clause, on which respondent relies, relating to the elimination, not of public utility holding companies *per se*, but of "the evils" connected with those "which are engaged in interstate commerce or in activities which directly affect or burden interstate commerce", refers to the regulatory provisions of the Act.

The recent authority chiefly relied on by respondent is *Borden Co.* v. *Borella*, No. 688, October Term, 1944, 89 L. Ed. 1240, a case under the Fair Labor Standards Act, in which porters, elevator operators and night watchmen in a building owned and operated by the Borden Company, which was admittedly engaged in interstate commerce, were held to be within the minimum wage and overtime provisions of that Act as "employees engaged in commerce or in the production of goods for commerce" within the statutory definition. But on the same day this Court in *10 East 40th Street Building, Inc.*, v. *Callus*, No. 820, 89 L. Ed. 1244, held the other way where the building in question was not owned and operated as the headquarters of an interstate-commerce business and predominantly occupied for its offices, but had a miscellaneous assortment of tenants, some engaged and some not engaged in interstate commerce; the fact that nearly half of both the rentable and rented area was occupied by manufacturing and other concerns engaged in the production of goods for interstate commerce was not deemed sufficient to bring the maintenance employees therein within the purview of the Fair Labor Standards Act.

It seems to us that, as between these decisions under the Fair Labor Standards Act, it is the *10 East 40th Street Building* case rather than the *Borden Company* case which is apposite to this one. We are here considering the validity of an attempt to bring petitioner within the reach of the commerce power solely because of its ownership of the stocks of other corporations and the incidental interstate communications which are normal to investors. The businesses of the corporations in the North American system were as miscellaneous, both with respect to their inherent character and their relation to interstate commerce, as were those of the tenants of 10 East 40th Street. They comprised electric utility companies, some interstate and some intrastate, gas utility companies, some interstate and some intrastate, and in addition companies engaged in steam and hot water heating, water supply, railroad, urban and interurban transportation, terminal warehousing, real estate, coal mining, ice manufacturing and distribution, trucking, parking lot and filling station operation, motor servicing, heavy appliance design and manufacture, amusement park operation, investment company, oil drilling and gasoline extracting (Resp. Br. in this case p. 13, citing R., Vol. I, 84). This Court said in the *10 East 40th Street Building* case (p. 1247) that

> "Renting office space in a building exclusively set aside for an unrestricted variety of office work spontaneously satisfies the common understanding of what is local business * * *".

So, we submit, the mere ownership of stocks in such a miscellany of enterprises (which may be, and often is, duplicated in the case of individuals of large and diverse interests) occasions an identical spontaneous reaction.

In our view, decisions under the Fair Labor Standards Act are helpful analogies on the constitutional question. It is true that the test under that Act is not in all respects co-extensive with the constitutional test. But both involve the difficult problem of drawing lines where there are no fixed points. *See Kirschbaum* v. *Wailing*, 316 U. S. 517, 523. And in both, the precise place at which the line should be drawn cannot be determined solely by logical deductions but must pay due regard to necessary accommodation between state and national authority. This Court said in the *10 East 40th Street Building* case (89 L. ed. p. 1248) that on all border-line factual situations involved under the Fair Labor Standards Act an argument can be made on either side and that the correct solution is "a question of degree". Almost the identical phrase was used by this Court with respect to the "great concepts of the Constitution such as 'interstate commerce'"; that, since "mathematical or rigid formulas" are not therein provided, "the criterion is necessarily one of degree" (*Santa Cruz Fruit Packing Co.* v. *National Labor Relations Board*, 303 U. S. 453, 467); and that "however difficult in application" differentiation "is essential to the maintenance of our constitutional system" (*id.* p. 466).

The complexity of modern economic enterprise is such that, if the distinction between local and interstate business were made to rest solely on logical pursuit of causative effects, there would be few activities which could not be drawn within the ambit of the statutory test or the constitutional test. But neither the statutory nor the constitutional concept is so applied by this Court. Realization that our government is not a unitary but a federal one infuses all of its opinions in commerce cases whether they relate to

statutory or constitutional interpretation. On the statutory question, see *McLeod* v. *Threlkeld*, 319 U. S. 491, holding that a cook employed to prepare and serve meals to maintenance-of-way employees of an interstate railroad, in pursuance of a contract between his employer and the railroad company, is not "engaged in commerce" within the meaning of the Fair Labor Standards Act, although recognizing (pp. 493-494) that the quoted phrase "covered every employee in the 'channels of interstate commerce', *Walling* v. *Jacksonville Paper Co.*, 317 U. S. 564 * * *". On the constitutional question, see the following passage of this Court's opinion in *Polish National Alliance* v. *National Labor Relations Board* (322 U. S. p. 650):

> "The interpenetrations of modern society have not wiped out state lines. It is not for us to make inroads upon our federal system either by indifference to its maintenance or excessive regard for the unifying forces of modern technology. Scholastic reasoning may prove that no activity is isolated within the boundaries of a single State, but that cannot justify absorption of legislative power by the United States over every activity. * * *"

Respectfully submitted,

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Counsel for Petitioner.

SULLIVAN & CROMWELL,
Of Counsel.

Nov. 5, 1945.

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CLERK

No. 721

In the Supreme Court of the United States

OCTOBER TERM, 1942

THE NORTH AMERICAN COMPANY

v.

SECURITIES AND EXCHANGE COMMISSION

ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE SECOND CIRCUIT

MEMORANDUM FOR THE SECURITIES AND EXCHANGE COMMISSION

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MEMORANDUM FOR THE SECURITIES AND EXCHANGE COMMISSION

The Solicitor General, on behalf of the Securities and Exchange Commission, joins in the petition of The North American Company that a writ of certiorari be issued to review the judgment of the United States Circuit Court of Appeals for the Second Circuit entered January 28, 1943.

1. The suit involves the constitutionality of Section 11 (b) (1) of the Public Utility Holding Company Act of 1935 (49 Stat. 803, herein referred to as the Act) as applied by the Commission to The North American Company in orders

dated April 14 and June 25, 1942. On petitions for review under Section 24 (a) of the Act, the Commission's orders were unanimously affirmed by the Circuit Court of Appeals for the Second Circuit.

As is indicated in Section 1 (c) of the Act, the integration (Section 11 (b) (1)) and corporate simplification (Section 11 (b) (2)) portions of the Act were considered by Congress as the most important provisions of the Act. The two clauses of Section 11 (b) are closely related and involve similar constitutional questions. There is thus a substantial public interest in an early determination of the constitutionality of a crucial provision of an Act designed to integrate and simplify a $15,000,000,000 industry.

There are presently pending in the Circuit Courts of Appeals two cases involving the constitutionality of Section 11 (b) (1) as well as certain questions of construction of that section which arose in the instant case; these cases are *Engineers Public Service Company* v. *S. E. C.*, in the Court of Appeals for the District of Columbia, No. 8394; and *United Gas Improvement Company* v. *S. E. C.*, in the Circuit Court of Appeals for the Third Circuit, Nos. 7888 and 8046. In addition, the following pending cases involve the constitutionality of the related Section 11 (b) (2): *Central and Southwest Utilities Company* v. *S. E. C.*, in the Court of Appeals for the Dis-

trict of Columbia, No. 8333; *American Power and Light Company* v. *S. E. C.* and *Electric Power and Light Company* v. *S. E. C.*, in the Circuit Courts of Appeals for the First Circuit, Nos. 3823 and 3824, respectively; *Commonwealth and Southern Corporation* v. *S. E. C.*, in the Circuit Court of Appeals for the Third Circuit, No. 8052, and *Todd* v. *S. E. C.*, in the Circuit Court of Appeals for the Sixth Circuit, No. 9348.

The Commission has pending before it more than twenty proceedings involving the application of Section 11 (b) (1) of the Act, and more than forty proceedings involving Section 11 (b) (2).

Because of this multiplicity of suits in the Circuit Courts of Appeals, the great number of Section 11 (b) proceedings pending before the Commission, and the public importance of the question, it is desirable that a writ of certiorari be granted in the instant case, and that the case be submitted for decision at this Term.

2. In order to clarify the problems raised by the petition, we believe it advisable to explain at this time the structure of the statute and the scope of the order involved in this case.

The Public Utility Holding Company Act of 1935 provides for the registration of interstate gas and electric utility holding companies. Registration is required of companies which directly (§§ 4 (a) (1)–4 (a) (5)) or through subsidiaries (§ 4 (a) (6)) engage in interstate activity. In-

trastate holding companies may apply for exemption (§§ 3 (a) (1) and (2)). Once a holding company is registered (and not exempted), the Act provides for the regulation of issuance of securities and various other transactions by the holding company and its subsidiaries. Section 11 provides machinery for the limitation of each system to a single geographically integrated system and for the simplification of any unduly complex structure.

The North American Company is one of the largest holding companies subject to this statute. North American controls companies whose assets are carried on their books at more than $2,300,000,000 (R. 85).[1] The system consists of eighty companies, operating chiefly electric and gas utility properties in seventeen states and the District of Columbia (R. 84). Properties of the system are scattered from Washington, D. C., to California, and from northern Michigan to southern Kansas and Missouri (Maps, R. 90, 91). North American is a New Jersey corporation with its principal place of business in New York City (R. 86). North American's interest in its subsidiaries is not merely that of an investor owning securities, as it states. North American controls

[1] However, not all of these companies are included in the consolidated balance sheet of North American and its subsidiaries, which shows assets of approximately $957,000,000 (R. 85).

its subsidiaries.[2] Indeed, control is the essence of the parent-subsidiary relationship under the statute (Sec. 2 (a) (7) and Sec. 2 (a) (8)). And it is clear that, at least with respect to its admitted subsidiaries, the control is actually exercised by North American. Further, in the light of the geographical location of the subsidiaries, the control from the principal office is exercised by means of the instrumentalities of interstate commerce.

The subsidiaries render electric service to more than 3,000,000 customers spread over an area of some 165,000 square miles with a population in excess of 12,000,000 (R. 85). The principal territories served are St. Louis, the District of Columbia, Milwaukee, Cleveland, Detroit, and extensive portions of Illinois, Iowa, Kansas, Missouri, and California. In addition, the North American system includes numerous gas properties and nonutilities including such varied businesses as railroads, coal mines, ice manufacturing, amusement park operation, oil drilling and gasoline extraction (R. 84).

The order of the Commission appealed from (R. 194) required The North American Company to sever its relationship with a number of companies by disposing of its ownership, control, and

[2] The term "control" is used broadly to include controlling influence of the kind mentioned in Sections 2 (a) (7) and 2 (a) (8) of the Act.

holdings of securities issued and properties owned, controlled, or operated by these companies. In substance, the order requires The North American Company to confine itself to the control of a single integrated public-utility electric system in the area of St. Louis and of certain related incidental businesses. It is this order which is contended to be beyond the power of Congress under the commerce clause and in violation of the due process clause. The court below was right, we believe, in rejecting these contentions.

A. Commerce clause

The decision of this Court in *Electric Bond and Share Company* v. *S. E. C.*, 303 U. S. 419, although confined to the provisions of Sections 4 (a) and 5 of the Act, established two propositions relevant to this case: (1) that a corporation is brought within the reach of Congress under the commerce clause when it engages in the transmission of electric energy or gas across state lines, or in rendering to subsidiaries through the use or instrumentality of interstate commerce expert and financial service, or in the sale of securities in interstate commerce; and (2) that whether such activities are carried out by a holding company directly or whether they are carried out by subsidiary companies controlled by the holding company, a holding company is still within the reach of Congress under the commerce clause, for "the constitutional authority confided to Con-

gress could not be maintained if it were deemed to depend upon the mere modal arrangements of those seeking to escape its exercise" (p. 440). North American, as its petition admits, has directly and through its subsidiaries engaged in the type of activities mentioned in the *Bond and Share* case. Since, as has been stated, control over utility subsidiaries is the essential characteristic of a holding company, under the *Bond and Share* decision the activities of the holding company and its subsidiaries are to be regarded for constitutional purposes as what in fact they are—the activities of a single enterprise.

The relation of Section 11 to interstate commerce is direct. Section 11 (b) (1) ordering the limitation of holding company systems to a single system applies only to registered holding companies. As shown above, only holding companies engaged in interstate commerce are required to be registered. Furthermore, Sections 3 (a) (1) and 3 (a) (2) of the Act provide a means by which companies predominantly intrastate in character may obtain exemption from the Act. North American has not sought to obtain such an exemption and, of course, could not. Having registered and not having sought exemption from any provision of the Act, the Commission was entitled to assume, without express findings, that North American was a holding company interstate in nature and engaged in interstate commerce. Congress was entitled to make a similar assumption

as to all holding companies which register and cannot obtain any exemption from registration. It could, therefore, properly apply Section 11 to North American as a "registered holding company" confident that registration was evidence of the interstate character of the company.

North American argues, however, that the particular type of regulation adopted by Section 11 (b) (1) is not reasonably related to the Congressional power over interstate commerce. The answer lies in the determination whether the continued control by a holding company over subsidiary corporations operating in distant areas so affects interstate commerce that Congress may order such control to be terminated or limited in scope. The Commission, of course, made no such finding. Such a finding was unnecessary and would have been improper since Congress itself had made its own findings.

The constitutionality of dispensing with administrative or judicial findings in specific cases where Congress has found that the activities regulated have a direct effect on interstate commerce is well established. *United States* v. *Darby*, 312 U. S. 100, 120–121. The enactment of Section 11 (b) (1) is itself a finding of Congress that the activity regulated affects interstate commerce and that the remedy proposed is one deemed by Congress appropriate to cure the evils which affect interstate commerce. No more specific finding by Congress was necessary. *Wickard* v. *Filburn*, No.

59, this Term, decided November 9, 1942. Nevertheless, Congress spelled out its findings concerning public utility holding companies at some length.

The Congressional findings are set forth in Section 1 of the Act. The Congress found that it was necessary to control public utility holding companies because it found that such companies and their subsidiary companies were affected with a national public interest since, among other things, "their practices in respect of and control over subsidiary companies often materially affect the interstate commerce in which those companies engage" and the extension of "their activities" over "many States * * * make[s] difficult, if not impossible, effective State regulation of public-utility companies." Section 1 further declares that the national public interest is, or may be, adversely affected "when the growth and extension of holding companies bears no relation to economy of management and operation or the integration and coordination of related operating properties."

The Congressional findings expressly incorporate by reference the facts found in a comprehensive 9-year study of the industry set forth in the ninety-odd volumes of the reports of the Federal Trade Commission and in the six-volume Splawn Report of the Committee on Interstate and Foreign Commerce of the House of Representatives.

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The evils set forth in the reports before Congress included inflationary write-ups on the books of operating companies complicating the regulation of rates; acquisitions of properties at grossly inflated prices; financing expansion by issuing excessive amounts of senior securities and insufficient common stock capital, resulting in the abuses of excessive leverage and inequitable distribution of voting power; unduly favorable treatment, in the sale of such securities, to investment bankers, frequently affiliated; preoccupation of management with financial maneuvering rather than efficient production and distribution of gas and electricity and the meeting of local needs; extraction of excessive dividends to maintain top-heavy structures of holding companies, often leading to improper accounting practices, and coupled with exorbitant "service charges"; and, finally, concentration of economic power too large for local regulation and presenting dangers of monopolistic control. In Section 1 (c) of the Act Congress declared it "to be the policy of this title, * * * to meet the problems and eliminate the evils as enumerated in this section, connected with public utility holding companies which are engaged in interstate commerce or in activities which directly affect or burden interstate commerce; and for the purpose of effectuating such policy to compel the simplification of public-utility holding company systems and the elimination therefrom of properties detrimental to the proper functioning of

such systems, and to provide as soon as practicable for the elimination of public-utility holding companies except as otherwise expressly provided in this title."

The elimination of public utility holding companies, except within defined limits, was thus found by Congress to be the appropriate means of striking at these evils. Section 11 (b) (1) insofar as it requires divorcement of holding company control over more than a single integrated public utility system (with exceptions not here pertinent) was one means of dealing with the evils of the holding company-operating company relationship; Section 11 (b) (2), requiring the elimination of holding companies insofar as they constitute unnecessary complexities in the holding company systems, is another means to the same end.

The Congress found that control over subsidiaries by the holding company was exercised by means of interstate commerce and that the evils resulting were initiated and perpetuated by means of instrumentalities of interstate commerce. It further found that these evils affected the nature and volume of the interstate commerce in which the subsidiaries engaged. The studies before it convinced Congress that control by the holding company over its subsidiaries was the root of the evil and it therefore declared that the means to remedy the evil was the limitation of the permissible scope of the holding company device.

Section 11 (b) (1), ordering divestment of properties unrelated to a single integrated public utility system, is not only reasonably related to the desired end, but is, in fact, essential to its accomplishment. The divestment of scattered and unrelated properties will achieve the desired objective of concentrating the attention of management on the efficient operation of "related operating properties" in a single area or region unhampered by absentee control and by problems unrelated to its proper functions. It seems clear from these findings that the particular activity regulated—control through the instrumentality of interstate commerce of a nation-wide holding company system—is within the reach of the federal power and that the type of regulation selected is reasonably designed to cope with the evils arising from the regulated activity.[3]

B. Due process

It is argued that enforcement of the Commission's order would deprive petitioner of important property rights. Although there is no basis for this assumption, nevertheless it has no

[3] There is talk of "destruction of values." It is important to note, however, that compliance with such orders is normally made by reorganization plans of the type which were before this Court in *S. E. C. v. Chenery Corp.*, No. 254, this Term, decided February 1, 1943. All such reorganizations must be made in accordance with a plan which is required to be "fair and equitable" and to be passed upon in this respect by the Commission, and normally by federal District and Circuit Courts of Appeals.

relevance to the question involved, which is whether the statute and order are unreasonable, arbitrary, and capricious. It seems clear that the statute is not subject to attack on this ground. When Congress found that substantial evils affecting interstate commerce resulted from control over far-flung empires by public utility holding companies (Section 1 of the Act), it was not powerless to adopt an appropriate remedy even though the alteration of "vested" property rights might be required. *Continental Ins. Co.* v. *U. S.*, 259 U. S. 156. The remedy of ordering divestment is in fact a familiar one under the Clayton Act, *F. T. C.* v. *Western Meat Co.*, 272 U. S. 554; under the Commodities Clause of the Hepburn Act, *U. S.* v. *Lehigh Valley R. Co.*, 220 U. S. 257; *U. S.* v. *Delaware L. & W. R. Co.*, 238 U. S. 516; and under the Packers and Stockyards Act, *Stafford* v. *Wallace*, 258 U. S. 495.

CONCLUSION

For the foregoing reasons, we believe that the decision below is right, but that the importance of the case makes early review by this Court desirable in the public interest.

Respectfully submitted,

CHARLES FAHY,
Solicitor General.

JOHN F. DAVIS,
Solicitor,
Securities and Exchange Commission.

FEBRUARY 1943.

APPENDIX

The Public Utility Act of 1935, 49 Stat. 803, 15 U. S. C., sec. 79 *et seq.*, provides in pertinent part as follows:

TITLE I—CONTROL OF PUBLIC-UTILITY HOLDING COMPANIES

NECESSITY FOR CONTROL OF HOLDING COMPANIES

SECTION 1. (a) Public-utility holding companies and their subsidiary companies are affected with a national public interest in that, among other things, (1) their securities are widely marketed and distributed by means of the mails and instrumentalities of interstate commerce and are sold to a large number of investors in different States; (2) their service, sales, construction, and other contracts and arrangements are often made and performed by means of the mails and instrumentalities of interstate commerce; (3) their subsidiary public-utility companies often sell and transport gas and electric energy by the use of means and instrumentalities of interstate commerce; (4) their practices in respect of and control over subsidiary companies often materially affect the interstate commerce in which those companies engage; (5) their activities extending over many States are not susceptible of effective control by any State and make difficult, if not impossible, effective State regulation of public-utility companies.

(b) Upon the basis of facts disclosed by the reports of the Federal Trade Commis-

sion made pursuant to S. Res. 83 (Seventieth Congress, first session), the reports of the Committee on Interstate and Foreign Commerce, House of Representatives, made pursuant to H. Res. 59 (Seventy-second Congress, first session) and H. J. Res. 572 (Seventy-second Congress, second session) and otherwise disclosed and ascertained, it is hereby declared that the national public interest, the interest of investors in the securities of holding companies and their subsidiary companies and affiliates, and the interest of consumers of electric energy and natural and manufactured gas, are or may be adversely affected—

(1) when such investors cannot obtain the information necessary to appraise the financial position or earning power of the issuers, because of the absence of uniform standard accounts; when such securities are issued without the approval or consent of the States having jurisdiction over subsidiary public-utility companies; when such securities are issued upon the basis of fictitious or unsound asset values having no fair relation to the sums invested in or the earning capacity of the properties and upon the basis of paper profits from intercompany transactions, or in anticipation of excessive revenues from subsidiary public-utility companies; when such securities are issued by a subsidiary public-utility company under circumstances which subject such company to the burden of supporting an overcapitalized structure and tend to prevent voluntary rate reductions;

(2) when subsidiary public-utility companies are subjected to excessive charges for services, construction work, equipment, and materials, or enter into transactions in

which evils result from an absence of arm's-length bargaining or from restraint of free and independent competition; when service, management, construction, and other contracts involve the allocation of charges among subsidiary public-utility companies in different States so as to present problems of regulation which cannot be dealt with effectively by the States;

(3) when control of subsidiary public-utility companies affects the accounting practices and rate, dividend, and other policies of such companies so as to complicate and obstruct State regulation of such companies, or when control of such companies is exerted through disproportionately small investment;

(4) when the growth and extension of holding companies bears no relation to economy of management and operation or the integration and coordination of related operating properties; or

(5) when in any other respect there is lack of economy of management and operation of public-utility companies or lack of efficiency and adequacy of service rendered by such companies, or lack of effective public regulation, or lack of economies in the raising of capital.

(c) When abuses of the character above enumerated become persistent and widespread the holding company becomes an agency which, unless regulated, is injurious to investors, consumers, and the general public; and it is hereby declared to be the policy of this title, in accordance with which policy all the provisions of this title shall be interpreted, to meet the problems and eliminate the evils as enumerated in this section, connected with public-utility holding companies which are engaged in

interstate commerce or in activities which directly affect or burden interstate commerce; and for the purpose of effectuating such policy to compel the simplification of public-utility holding-company systems and the elimination therefrom of properties detrimental to the proper functioning of such systems, and to provide as soon as practicable for the elimination of public-utility holding companies except as otherwise expressly provided in this title.

DEFINITIONS

SEC. 2. (a) When used in this title, unless the context otherwise requires—

* * * * *

(7) "Holding company" means—

(A) any company which directly or indirectly owns, controls, or holds with power to vote, 10 per centum or more of the outstanding voting securities of a public-utility company or of a company which is a holding company by virtue of this clause or clause (B), unless the Commission, as hereinafter provided, by order declares such company not to be a holding company; and

(B) any person which the Commission determines, after notice and opportunity for hearing, directly or indirectly to exercise (either alone or pursuant to an arrangement or understanding with one or more other persons) such a controlling influence over the management or policies of any public-utility or holding company as to make it necessary or appropriate in the public interest or for the protection of investors or consumers that such person be subject to the obligations, duties, and liabilities imposed in this title upon holding companies.

The Commission, upon application, shall by order declare that a company is not a holding company under clause (A) if the Commission finds that the applicant (i) does not, either alone or pursuant to an arrangement or understanding with one or more other persons, directly or indirectly control a public-utility or holding company either through one or more intermediary persons or by any means or device whatsoever, (ii) is not an intermediary company through which such control is exercised, and (iii) does not, directly or indirectly, exercise (either alone or pursuant to an arrangement or understanding with one or more other persons) such a controlling influence over the management or policies of any public-utility or holding company as to make it necessary or appropriate in the public interest or for the protection of investors or consumers that the applicant be subject to the obligations, duties, and liabilities imposed in this title upon holding companies. The filing of an application hereunder in good faith by a company other than a registered holding company shall exempt the applicant from any obligation, duty, or liability imposed in this title upon the applicant as a holding company, until the Commission has acted upon such application. Within a reasonable time after the receipt of any application hereunder, the Commission shall enter an order granting, or, after notice and opportunity for hearing, denying or otherwise disposing of, such application. As a condition to the entry of any order granting such application and as a part of any such order, the Commission may require the applicant to apply periodically for a renewal of such order

and to do or refrain from doing such acts or things, in respect of exercise of voting rights, control over proxies, designation of officers and directors, existence of interlocking officers, directors and other relationships, and submission of periodic or special reports regarding affiliations or intercorporate relationships of the applicant, as the Commission may find necessary or appropriate to ensure that in the case of the applicant the conditions specified in clauses (i), (ii), and (iii) are satisfied during the period for which such order is effective. The Commission, upon its own motion or upon application of the company affected, shall revoke the order declaring such company not to be a holding company whenever in its judgment any condition specified in clause (i), (ii), or (iii) is not satisfied in the case of such company, or modify the terms of such order whenever in its judgment such modification is necessary to ensure that in the case of such company the conditions specified in clauses (i), (ii), and (iii) are satisfied during the period for which such order is effective. Any action of the Commission under the preceding sentence shall be by order.

* * * * *

SEC. 11.

* * * * *

(b) It shall be the duty of the Commission, as soon as practicable after January 1, 1938:

(1) To require by order, after notice and opportunity for hearing, that each registered holding company, and each subsidiary company thereof, shall take such action as the Commission shall find necessary to limit

the operations of the holding-company system of which such company is a part to a single integrated public-utility system, and to such other businesses as are reasonably incidental, or economically necessary or appropriate to the operations of such integrated public-utility system: *Provided, however,* That the Commission shall permit a registered holding company to continue to control one or more additional integrated public-utility systems, if, after notice and opportunity for hearing, it finds that—

(A) Each of such additional systems cannot be operated as an independent system without the loss of substantial economies which can be secured by the retention of control by such holding company of such system;

(B) All of such additional systems are located in one State, or in adjoining States, or in a contiguous foreign country; and

(C) The continued combination of such systems under the control of such holding company is not so large (considering the state of the art and the area or region affected) as to impair the advantages of localized management, efficient operation, or the effectiveness of regulation.

The Commission may permit as reasonably incidental, or economically necessary or appropriate to the operations of one or more integrated public-utility systems the retention of an interest in any business (other than the business of a public-utility company as such) which the Commission shall find necessary or appropriate in the public interest or for the protection of investors or consumers and not detrimental to the proper functioning of such system or systems.

(2) To require by order, after notice and opportunity for hearing, that each registered holding company, and each subsidiary company thereof, shall take such steps as the Commission shall find necessary to ensure that the corporate structure or continued existence of any company in the holding-company system does not unduly or unnecessarily complicate the structure, or unfairly or inequitably distribute voting power among security holders, of such holding-company system. In carrying out the provisions of this paragraph the Commission shall require each registered holding company (and any company in the same holding-company system with such holding company) to take such action as the Commission shall find necessary in order that such holding company shall cease to be a holding company with respect to each of its subsidiary companies which itself has a subsidiary company which is a holding company. Except for the purpose of fairly and equitably distributing voting power among the security holders of such company, nothing in this paragraph shall authorize the Commission to require any change in the corporate structure or existence of any company which is not a holding company, or of any company whose principal business is that of a public-utility company.

The Commission may by order revoke or modify any order previously made under this subsection, if, after notice and opportunity for hearing, it finds that the conditions upon which the order was predicated do not exist. Any order made under this subsection shall be subject to judicial review as provided in section 24.

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In the Supreme Court of the United States

OCTOBER TERM, 1942

THE NORTH AMERICAN COMPANY, PETITIONER

v.

SECURITIES AND EXCHANGE COMMISSION

ON WRIT OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE SECOND CIRCUIT

BRIEF FOR THE SECURITIES AND EXCHANGE COMMISSION

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In the Supreme Court of the United States

OCTOBER TERM, 1942

No. 721

THE NORTH AMERICAN COMPANY, PETITIONER

v.

SECURITIES AND EXCHANGE COMMISSION

ON WRIT OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE SECOND CIRCUIT

BRIEF FOR THE SECURITIES AND EXCHANGE COMMISSION

OPINIONS BELOW

The opinion of the Circuit Court of Appeals for the Second Circuit is reported in 133 F. (2d) 148. The Findings and Opinions of the Commission (1 R. 73–192) are published in Holding Company Act Release Nos. 3405 and 3629 but are not yet officially reported.

JURISDICTION

The decree of the Circuit Court of Appeals for the Second Circuit was entered on January 28, 1943. The petition for a writ of certiorari was granted March 1, 1943. The jurisdiction of this

Court is invoked under Section 240 (a) of the Judicial Code as amended by the Act of February 13, 1925, made applicable by Section 24 (a) of the Public Utility Holding Company Act of 1935.

QUESTIONS PRESENTED

1. Is Section 11 (b) of the Public Utility Holding Company Act within the power of Congress to regulate commerce among the several states?

2. Does Section 11 (b) of the Act as applied by the Commission to the petitioner violate the due process clause of the Fifth Amendment?

STATUTE INVOLVED

The statute involved is the Public Utility Holding Company Act of 1935 (Act of August 26, 1935, c. 687, 49 Stat. 803). The relevant provisions of Sections 1, 2, 3, 4, and 11 of the statute are set forth in Appendix A, *infra,* pp. 103–115.

Broadly speaking, the Act provides for the regulation of electric and gas utility holding company systems. Its major provisions are of three types:

1. A requirement of registration of public utility holding companies which are engaged in interstate commerce or use the mails;

2. Substantive regulations of registered holding companies with respect to such matters as the issuance of securities, the sale and acquisition of assets, the payment of dividends, etc.; and

3. Corporate simplification and integration provisions as contained in Section 11 of the Act.

It is the latter provisions which are before the Court in the present case.

STATEMENT

A. BACKGROUND OF THE STATUTE

Control of the electric and gas utility industry as it affects our national economy has been the subject of Congressional concern for many years.

In December, 1924, there was introduced in the United States Senate (68th Congress) Senate Resolution 286 charging General Electric Company with exercising undue control over the electric power industry, and shortly thereafter the Senate adopted Senate Resolution 329 (68th Congress, 2d Session) directing the Federal Trade Commission to investigate to what extent and by what means the General Electric Company or its security holders "* * * monopolize or control the production, generation or transmission of electric energy or power."[1]

In 1928 the Senate directed the Federal Trade Commission to conduct an investigation of electric and gas utility and holding companies (S. Res. 83, 70th Cong., 1st sess.). The resulting periodic reports made to the Senate by the Federal Trade

[1] Shortly thereafter General Electric distributed to its stockholders its interest in securities of the Electric Bond and Share Company, the utility holding company which was before this Court in *Electric Bond & Share Co.* v. *Securities and Exchange Commission*, 303 U. S. 419.

Commission cover 101 volumes representing an exhaustive investigation of the utility industry.[2]

The House of Representatives also conducted an investigation in this field. Pursuant to H. Res. 59, 72d Cong., 1st sess., and H. J. Res. 572, 72d Cong., 2d sess., a report on the Relation of Holding Companies to Operating Companies in Power and Gas Affecting Control (popularly known as the Splawn Report) was made by the House Committee on Interstate and Foreign Commerce. This report consists of six parts, reported during the years 1933 to 1935.

In order to coordinate national policy on utility problems, the President of the United States in 1934 appointed the National Power Policy Committee, with membership consisting of representatives of governmental departments concerned with power problems. The report of this committee on Public Utility Holding Companies was submitted by the President to Congress on March 12, 1935 (House Document No. 137, 74th Cong., 1st sess.).

The reports of the Federal Trade Commission, the Splawn Report, and the Report of the National Power Policy Committee all concluded that the utility holding company was a highly deleteri-

[2] This has been called "the most thoroughgoing investigation of an American industry that has ever appeared." Barnes, *The Economics of Public Utility Regulation* (1942), p. 71. The reports, to which frequent references will be made, are cited "*Utility Corporations*, Part—."

ous device, peculiarly susceptible of abuses, and having a harmful effect on the economy of the nation.[3] They traced the development of the holding company from its beginnings, when Electric Bond and Share Company and United Gas Improvement Company were organized by manufacturers of utility equipment to find a market for their product,[4] to 1935, by which time holding companies had grown into enormous, often multi-billion dollar enterprises, 15 of them controlling the generation of 80% of the electricity generated by private utility companies in the United States.[5] Similarly, in the gas utility industry, by 1932, 11 holding company systems controlled 80% of the total mileage of natural gas pipelines upon which the gas fields are almost completely dependent for the marketing of their product.[6]

The figures of the Federal Power Commission show that 19.8% of the electric power production for December 1941, or 3 billion kilowatt-hours, was in interstate movement. Federal Power Commission, "Production and Utilization of Electric Energy in the United States," January 23, 1942. The Federal Trade Commission found that

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[3] *Utility Corporations*, Part 72–A, p. 64; Splawn Report, Part 2, p. VIII; Report of National Power Policy Committee, House Document No. 137, 74th Cong., 1st sess., pp. 4–8.

[4] *Utility Corporations*, Part 72–A, pp. 86–102.

[5] Id. at pp. 37–44.

[6] Report of National Power Policy Committee to the President, *supra*, n. 3.

holding companies controlled 98.5% of the electric energy transmitted in interstate commerce. *Utility Corporations*, Part 72–A, p. 43, Table 13. In the interstate movement of natural gas the holding companies are also dominant. In 1930 the Federal Trade Commission found that holding companies were responsible for 79.5% of the interstate flow. *Id.* at p. 50, Table 16.

A dominant characteristic of holding companies was found to be the concentration of management of the nation's utilities in a few financial centers. We are attaching as Exhibit B to this brief a chart showing the approximate dollar amount of consolidated assets of the 20 largest holding company systems, the location of their general headquarters, the number of utility subsidiaries of each, the number of states where those subsidiaries operate, and both the maximum and the average distance of the system headquarters to the subsidiaries. These 20 largest systems have combined assets of approximately $15,300,000,000 out of a total of some $16,000,000,000 of assets in the 53 holding company systems registered with the Commission under the Act.[7] In the light of information of this nature, the reports pointed out that the typical holding company system was a huge interstate enterprise

[7] "Registered Public Utility Holding Companies, August 15, 1942," Report of Public Utilities Division, Securities and Exchange Commission.

generally controlled from financial centers remote from the utility properties.

These were the systems which the Federal Trade Commission, the Splawn Report, and the National Power Policy Committee all agreed must no longer be permitted to dominate a large segment of our national economy, to the detriment of a nationwide group of investors and both industrial and residential consumers.

The President's message to the Congress, transmitting the report of the National Power Policy Committee, said:

> We do not seek to prevent the legitimate diversification of investment in operating utility companies by legitimate investment companies. But the holding company in the past has confused the function of control and management with that of investment and in consequence has more frequently than not failed in both functions. Possibly some holding companies may be able to divest themselves of the control of their present subsidiaries and become investment trusts. But an investment company ceases to be an investment company when it embarks into business and management. Investment judgment requires the judicial appraisal of other people's management.
>
> * * * * *
>
> But where the utility holding company does not perform a demonstrably useful and necessary function in the operating

industry and is used simply as a means of financial control, it is idle to talk of the continuation of holding companies on the assumption that regulation can protect the public against them. Regulation has small chance of ultimate success against the kind of concentrated wealth and economic power which holding companies have shown the ability to acquire in the utility field. No Government effort can be expected to carry out effective, continuous, and intricate regulation of the kind of private empires within the Nation which the holding-company device has proved capable of creating.

Except where it is absolutely necessary to the continued functioning of a geographically integrated operating utility system, the utility holding company with its present powers must go. If we could remake our financial history in the light of experience, certainly we would have none of this holding-company business. It is a device which does not belong to our American traditions of law and business. It is only a comparatively late innovation. It dates definitely from the same unfortunate period which marked the beginnings of a host of other laxities in our corporate law which have brought us to our present disgraceful condition of competitive charter-mongering between our States. And it offers too well-demonstrated temptation to and facility for abuse to be tolerated as a recognized business institution. That temptation and that

facility, are inherent in its very nature. It is a corporate invention which can give a few corporate insiders unwarranted and intolerable powers over other people's money. In its destruction of local control and its substitution of absentee management, it has built up in the public-utility field what has justly been called a system of private socialism which is inimical to the welfare of a free people.

Most of us agree that we should take the control and the benefits of the essentially local operating utility industry out of a few financial centers and give back that control and those benefits to the localities which produce the business and create the wealth. We can properly favor economically independent business, which stands on its own feet and diffuses power and responsibility among the many, and frowns upon those holding companies which, through interlocking directorates and other devices, have given tyrannical power and exclusive opportunity to a favored few. It is time to make an effort to reverse that process of the concentration of power which has made most American citizens, once traditionally independent owners of their own businesses, helplessly dependent for their daily bread upon the favor of a very few, who, by devices such as holding companies, have taken for themselves unwarranted economic power. I am against private socialism of concentrated private power as thoroughly as I am against governmental socialism.

> The one is equally as dangerous as the other; and destruction of private socialism is utterly essential to avoid governmental socialism. (S. Rep. 621, 74th Cong., 1st sess., pp. 2 and 3.)

Upon receipt of this message, bills to carry out its recommendations were introduced in both the House and Senate. These bills provided for the elimination of holding companies in five years if they could not demonstrate their usefulness to the operating companies. After extensive hearings in both the House and Senate divergent bills were reported out. The Senate bill required complete elimination of holding companies except in situations where the Federal Power Commission should issue a certificate finding that the continuance of a holding company was necessary (S. 2796, 74th Cong., June 13, 1935); while the House bill directed the Securities and Exchange Commission to limit each holding company system to a single integrated public utility system "except that if the Commission finds that it is not necessary in the public interest to so limit the operations of such holding company system, the order of the Commission shall require such company to take only such action * * * as the Commission finds necessary to limit such operations to such number of integrated public utility systems as it finds may be included in such holding company system consistently with the public interest." (S. 2796; House

Rep. No. 1318, 74th Cong., 1st sess., June 24, 1935.)

The bills were passed in each house in approximately the forms in which they were introduced. Conferees of the House and Senate worked out a compromise bill which was enacted as the Public Utility Holding Company Act of 1935, which in Section 11 (b) (1) limits each holding company to a single integrated system, related other businesses, and additional systems in certain narrow circumstances; and in Section 11 (b) (2) requires the simplication of such systems.

B. THE PRESENT PROCEEDINGS

The proceedings before the Commission were instituted by a Notice of and Order for Hearing under Section 11 (b) (1) of the Act, dated March 8, 1940 (R. 1). Hearings were commenced on June 21, 1940, before an examiner appointed by the Commission and were closed on April 15, 1941. On April 14, 1942, the Commission issued its Findings and Opinion (1 R. 73–192) and its Order (1 R. 194–204).

1. THE NORTH AMERICAN SYSTEM

North American controls companies whose assets are carried on their books at more than $2,300,000,000 (1 R. 84–86). Briefly, the North American system consists of eighty companies, operating chiefly electric and gas utility properties in seventeen states and the District of Columbia,

from Washington, D. C., to California, and from northern Michigan to southern Kansas and Missouri. Electric service alone is rendered to more than 3,000,000 customers spread over an area of some 165,000 square miles with a population in excess of 12,000,000. The principal territories served are St. Louis, the District of Columbia, Milwaukee, Cleveland, Detroit,[8] and extensive portions of Illinois, Iowa, Kansas, Missouri, and California. (*Ibid.*) A map showing the location of the electric service territories of the system is attached to this brief as Appendix C, *infra*; p. 118.

Gas Service is rendered by North American system companies in the states of Iowa, Missouri, Nebraska, Minnesota, Illinois, Kansas, Wisconsin, Michigan, and California. Appendix D, *infra* p. 119, is a map showing the location of gas operations of the system.

Appendix E, *infra* p. 120, is a map showing the air-line distances of various focal points in the territories served from the central offices of North American in New York City.

North American's relationship to these vast enterprises has not been solely that "of a large investor seeking to promote the sound development of his investment" (Pet. Br. 8). North

[8] Petitioner, since the institution of these proceedings, disposed of substantially its entire holdings of Detroit Edison by declaring common stock dividends payable in such stock, cash income being used to retire a portion of petitioner's indebtedness. *North American Company*, Holding Company Act Release No. 4056 (1943).

American has *control* over these scattered enterprises. As to only two of its subsidiaries, the Detroit Edison Company and Pacific Gas & Electric Company, was a claim raised that they were not controlled by or subject to a controlling influence of petitioner. After hearings in exemption proceedings the Commission rejected both claims and on appeal its determinations were sustained.[9]

The system companies are also engaged in the following businesses, in some cases a company being engaged in more than one business: holding company, natural gas production, natural gas transmission, steam and hot water heating, water supply, railroad, urban and interurban transportation, terminal and warehousing, real estate, coal mining, ice manufacturing and distribution, trucking, parking lot and filling station operation, meter servicing, heavy appliance design and manufacture, amusement park operation, investment company, oil drilling and gasoline extracting (1 R. 84).

The offices of North American are located at 60 Broadway, New York City. It has more than 58,000 common stockholders residing in every state of the Union (Pet. Br. p. 66). Of its board of directors of 12 persons nine are officers of North

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[9] See *Detroit Edison Co.* v. *Securities & Exchange Commission*, 119 F. (2d) 730 (C. C. A. 6), certiorari denied, 314 U. S. 618; *Pacific Gas & Electric Company* v. *Securities & Exchange Commission*, 127 F. (2d) 378 (C. C. A. 9), petition for rehearing granted June 6, 1942.

American or of one or more of its subsidiaries (9 R. 3314–3323).

2. THE COMMISSION'S ORDER

In the administrative proceedings petitioner urged that it should be permitted to retain its holdings in and around St. Louis, Cleveland, and Milwaukee (each of which the Commission found to be an integrated system, the first and third being interstate systems). In the face of repeated refusals by petitioner to select a "single" system, the Commission designated the St. Louis properties as such and found that the Cleveland and Milwaukee properties did not meet the standards in the proviso to Section 11 (b) (1) for retention with the St. Louis properties as "additional" systems.[10]

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[10] Petitioner states (Pet. Br. 4) that "the order of June 25, 1942, refused permission to the petitioner to choose for itself the integrated public utility system which it might retain." The Act places the responsibility for the limitation of holding company systems solely in the Commission, but the Commisison sought the benefit of petitioner's judgment in that regard. The fact is that petitioner was given repeated opportunities to indicate a choice as to its retainable integrated system, but it persistently refused to do so, taking the position that the Commission could not and it would not so select. Even the principal order here under review, dated April 14, 1942, provided "that notwithstanding the provisions of * * * the Commission's Rules of Practice, The North American Company * * * may, within 15 days of the date hereof, petition for leave to present further argument and proffer additional evidence as follows: (1) The North American Company may petition for opportunity to present

In regard to certain non-utility businesses of petitioner such as its interests in a coal mine, an investment company and a holding company owning real estate and stock in a heavy equipment manufacturing company, the Commission held that the properties were not retainable by petitioner. The basis of this finding was the Commission's interpretation of the provisions in the Act relating to the retention of "other businesses." The Commission construed those clauses to permit retention only when it appears "that the public interest will be furthered by retention of a non-utility interest by reason of its relation 'to economy of management and operation' of a public utility system or systems or 'the integration and coordination of related operating properties'" (1 R. 117). Since the properties in question were not

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further argument or additional evidence on the question whether any single integrated public utility system, other than the integrated electric utility system of the Union group as described in our Findings and Opinion herein this day issued, shall serve as its principal system * * *" (1 R. 201). Petitioner did not avail itself of this opportunity, but again challenged the Commission's right to select a system. The Commission's Order of June 25, 1942, rejected this challenge (R. Vol. I, p. 214). At no point did petitioner claim that the Union system was not an appropriate selection on the merits; on the contrary, there were numerous indications that if petitioner had to make a choice the Union system would be elected and the Commission relied, in part, on those indications in making its decision to restrict petitioner to Union (1 R. 90-91).

related to the operations of the integrated Union Electric system, the Commission ordered their divestment.

The Commission further rejected petitioner's argument that orders might not be entered under Section 11 (b) (1) until the Commission had completed general industry-wide studies under Section 30 of the Act.

Thus the Commission ordered a limitation of the operations of petitioner's system to its integrated interstate public utility system in and around St. Louis, Missouri. Jurisdiction was retained to consider whether a gas system in the suburbs of St. Louis and petitioner's office building in New York City might be retained, but petitioner was ordered to "sever its relationship" with all of its other properties "by disposing or causing the disposition, in any appropriate manner not in contravention of the applicable provisions of the said Act or the Rules and Regulations promulgated thereunder, of its direct and indirect ownership, control and holding of securities issued and properties owned, controlled or operated" by the subsidiary companies involved (1 R. 195).

3. THE OPINION BELOW

On petition for review filed in the United States Circuit Court of Appeals for the Second Circuit, the Commission's order was sustained in every particular; the court further rejected petitioner's arguments, which it brings to this

Court, that Section 11 (b) (1) of the Act is beyond the power of Congress to regulate commerce among the several states, and violates the Fifth Amendment.

SUMMARY OF ARGUMENT

Section 11 (b) applies only to companies within the scope of the commerce power. Registered holding companies are those which use the channels of interstate commerce in their business; and predominantly intrastate companies within the effective control of a single state are not required to comply with the provisions of the Act.

The North American system is clearly an interstate enterprise. Petitioner controls some 80 companies, including ten direct subsidiaries, operating chiefly electric and gas utility properties in seventeen states and the District of Columbia, from the Atlantic to the Pacific seaboards, and from Michigan to Kansas and Missouri. Petitioner concedes that some of its important subsidiaries are engaged in interstate transmission of energy. Moreover, extensive sales of securities of companies in the system by public offerings in interstate commerce have taken place; in addition, North American exercises its control over subsidiaries through the instrumentalities of interstate commerce. These activities are the essence of the business of the system.

Congress has found in Section 1 (a) of the Act that the activities of registered holding companies affect interstate commerce, and in Section

1 (b) has detailed persistent and widespread abuses characteristic of utility holding companies. These abuses relate to security issues; to dealings not at arm's length; to control of operating companies through disproportionately small investment; to lack of integration and coordination of operating properties and lack of economies; and to impairment of state regulation. The findings of Congress are amply supported by the official reports of investigating bodies to which the Act refers. These abuses are spread and perpetuated by the business activities of utility holding companies carried on in interstate commerce, to the detriment of consumers and investors. The volume of interstate transmission, the dependence of interstate commerce on electricity and gas, the interstate marketing of securities and performance of financial and other services, all warrant Congressional action to eliminate or ameliorate the abuses of which utility holding companies are peculiarly susceptible.

The Act is in the conservative tradition of federalism. It preserves state regulation of local utility operations, and Section 11 (b) in particular was designed to restore and strengthen the power of the states to deal effectively with local operating utilities. Congress might have exercised its power by prohibiting the use of the channels of interstate commerce for the spread of harm caused by characteristic holding company practices. But Congress was not limited to that sanc-

tion. It was at liberty to reach the evil at its source, as it has done in other statutes, notably the antitrust laws. Divestment and dissolution are familiar remedies in this field.

The Act does not violate the Fifth Amendment. There is no taking of property. There is no inviolable right in investors to retain holding company securities rather than securities in the underlying companies. Moreover, any claim of loss is speculative, and responsible sources estimate an increase in market value of investors' interests through corporate simplification and integration. The Act may be applied to corporate structures antedating the statute, as the antitrust cases show.

ARGUMENT

I. SECTION 11 (b) OF THE ACT IS WITHIN THE COMMERCE POWER

A. REGISTERED HOLDING COMPANY SYSTEMS SUCH AS PETITIONER ARE INTERSTATE ENTERPRISES WHOSE SIGNIFICANT ACTIVITIES ARE CARRIED ON IN INTERSTATE COMMERCE AND SUBSTANTIALLY AFFECT SUCH COMMERCE

1. *The statutory scheme*

The provisions of the Act are so designed that Section 11 (b) will be applied only to companies properly within the scope of Congressional power under the commerce clause. Section 11 (b) applies its integration and simplification provisions only to "registered" holding companies. By definition (Sec. 2 (a) (7) of the Act), a holding company is a company which controls an electric or

gas utility company. The definition creates a presumption that a holding of 10% of voting securities constitutes control, but this presumption may be rebutted by showing lack of control or controlling influence. The essential test under the Act of the holding-company-subsidiary relationship is the test of control.[11] Consequently, no company need comply with Section 11 of the Act if it is merely an investor in other companies and does not control such other companies. The Act requires (Section 4 (a)) registration of any utility holding company which uses the instrumentalities of interstate commerce directly or through its subsidiaries in the operation of its business.[12]

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[11] Petitioner frequently appears to argue that under the Act such ten percent ownership is conclusive of a holding company-subsidiary company relationship, so that that relationship involves merely the ownership of securities, but the provisions of Sections 2 (a) (7) and 2 (a) (8) clearly show the inaccuracy of petitioners' approach. And see p. 13, n. 9, *supra*.

[12] The Act also requires registration of holding companies which use the mails in the operation of their businesses. However, we are confining this discussion to interstate commerce since we believe that if the relation of holding companies to interstate commerce will sustain the validity of requiring registration under the commerce clause, a similar relation to the use of the mails will sustain similar regulation under the postal power. We do not understand that petitioner questions this conclusion, and in any event discussion of the postal power would be academic, in view of petitioner's obligation to register because of its interstate activities.

Registration of a utility holding company is also required under Section 4 (b) if it has distributed any of its securities

But not all companies which are involved in interstate activities are required to comply with the provisions of Section 11 (b), the integration and corporate simplification section of the Act. Holding companies, even though they use the instrumentalities of interstate commerce in the operation of their business, may obtain exemption from the provisions of the Act if predominantly intrastate in their operations and within the effective control of a single state. Section 3 (a) (1) and (2) of the Act provides as follows:

> Sec. 3. (a) The Commission, by rules and regulations upon its own motion, or by order upon application, shall exempt any holding company, and every subsidiary company thereof as such, from any provision or provisions of this title, unless and except insofar as it finds the exemption detrimental to the public interest or the interest of investors or consumers, if—
>
> (1) such holding company, and every subsidiary company thereof which is a

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by means of an interstate public offering since January 1, 1925, provided any such securities are owned by persons not resident in the same state as the holding company at the time of the enactment of the statute. Relations between the holding company and its out-of-state security holders, such as transmittal of interest, dividends, proxies, notices of meetings, etc., are continuing relationships which of necessity are maintained by the use of the mails and facilities of interstate commerce; but in any event the petitioner was required to register because of the requirements of Section 4 (a) of the Act, and it thus appears that the requirement of Section 4 (b) is not here involved.

public-utility company from which such holding company derives, directly or indirectly, any material part of its income, are predominantly intrastate in character and carry on their business substantially in a single State in which such holding company and every such subsidiary company thereof are organized;

(2) such holding company is predominantly a public-utility company whose operations as such do not extend beyond the State in which it is organized and States contiguous thereto;

Thus, in spite of petitioner's argument that Section 4 may cause the registration of holding companies whose engagement in commerce is only sporadic or incidental, it is clear that the Act contains ample safeguard that local holding companies will not be regulated.

Petitioner disputes this argument because of the requirement for exemption in Section 3 (a) (1) that the holding company and all of its important utility subsidiaries be incorporated in the state where those utilities operate. Petitioner contends that this requirement is unrelated to interstate commerce. We think it is clear that the state of incorporation bears an important relation to the effectiveness of state regulation of utilities[13] sell-

[13] It has long been recognized as a peculiarly appropriate field for governmental regulation, to determine the conditions under which a number of individuals may combine their resources and activities through incorporation. Par-

ing electricity and gas in interstate commerce and to consumers engaged in such commerce, and that hence the exemption is appropriately qualified; but in any event, that is not this case, for, as petitioner admits, it would not have a Section 3 exemption available to it under any circumstances, its utility operations being scattered in seventeen states and the District of Columbia.

Petitioner also complains that exemptions under Section 3 (a) (1) need not always be granted to those eligible to apply for them since the Act extends such exemption "unless and except insofar as it [the Commission] finds the exemption detrimental to the public interest or the interest of investors or consumers." Petitioner argues that this qualification, similar to that of the domiciliary requirement discussed above, is unrelated to interstate commerce and that therefore Section 3 (a) does not provide for exemption for predominantly intrastate holding companies. We repeat that in no event could petitioner be eligible for a Section 3 (a) (1) exemption, because of the thoroughly interstate character of its system and operations, and consequently its argument based on the "unless and except" clause is an attempt to argue exemption cases which may never

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ticularly is this so where the business is one affected with a public interest. This local control is circumvented where it is the holding company, incorporated in another state, which is the significant corporate entity through which the controlling group of investors pool their interests.

arise. In fact, however, the policy which the Commission is required to apply in considering exceptions to Section 3 (a) exemptions is the policy set forth in Section 1 (c) of the Act, as follows:

> * * * it is hereby declared to be the policy of this title, *in accordance with which policy all the provisions of this title shall be interpreted,* to meet the problems and eliminate the evils as enumerated in this section, connected with public-utility holding companies which are *engaged in interstate commerce or in activities which directly affect or burden interstate commerce;* * * * [Italics supplied.]

The Commission has never yet had occasion to deny exemption under the "unless and except" clause of Section 3 (a) to a holding company found to be "predominantly intrastate" in character within clause (1). It should be noted that Section 3 (a) refers to exemption from any provision or provisions of the Act. It is conceivable that a holding company system while predominantly intrastate in character nevertheless is engaged in activities which burden or affect interstate commerce, and this may be found to warrant denial of exemption from some, if not all, of the provisions of the Act.

2. *The application of the statute to the North American system*

The interstate character of petitioner is clear from an examination of its operations.

Petitioner is incorporated in New Jersey. There is a total of some 80 companies in its system. It has 10 direct subsidiaries, of which 3 are registered holding companies: Union Electric Company of Missouri operating in and around St. Louis, Missouri, and with subsidiaries operating in Illinois and Iowa as well; Washington Railway and Electric Company whose subsidiaries operate in the District of Columbia and adjacent territory in Virginia and Maryland; and North American Light & Power Company which operates extensive systems in Kansas, Missouri, Illinois and Iowa. Some of the subsidiaries of North American Light & Power Company are also registered holding companies (1 R. 84–86).

Four of the direct subsidiaries of North American are operating companies: Cleveland Electric Illuminating Company; Pacific Gas & Electric Company; The Detroit Edison Company; and Wisconsin Electric Power Company (a holding company which with its subsidiaries operates an integrated system in Wisconsin and Michigan, known as Wisconsin-Michigan; this Company has on file with the Commission an application for exemption under Section 3 (a) (2) of the Act as predominantly an operating rather than a holding company).

The remaining three direct subsidiaries of North American are North American Utility Securities Corporation, an investment trust; West Kentucky Coal Company which owns and operates

a coal mine in Kentucky and sells the coal in several states; and 60 Broadway Building Corporation which owns the office building in New York City where Petitioner has its offices.

North American controls all of these companies from its central offices in New York. The operations of petitioner's system are conducted in 17 states and the District of Columbia (1 R. 84–86). It is important to note that none of the utility operations of the North American system—by far the preponderant business of the system—is conducted either in New Jersey where petitioner is incorporated or in New York where is located its principal place of business, and only two of the non-utility businesses of petitioner are conducted in New York: the office building and North American's investment trust.

Petitioner has conceded that Wisconsin Electric Power Company, Union Electric Company of Missouri, Washington Railway and Electric Company, and North American Light & Power Company are engaged in interstate commerce.[14]

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[14] Union Electric Company of Illinois, for example, in the year 1940, sold 1,200,000,000 kilowatt-hours of electric energy to its parent, Union Electric Company of Missouri, all of which crossed the Illinois-Missouri border. (*Ibid.* R. North American Exhibit No. 146.) While not strictly comparable because of the difference in period, the magnitude of this figure is indicated by the fact that in 1939 the total output of the entire Union Electric system was 2,468,000 kilowatt-hours (9 R. 3268). Other interstate transmission of electricity in substantial amounts takes place in the North American system between the District of Columbia and

It claims that Cleveland, Pacific Gas and Detroit Edison are not engaged in interstate commerce. It argues that since a particular subsidiary may not be engaged in interstate commerce and North American's relation with it is merely that of a holder of securities, asserted to be a purely intrastate activity, Congress has no power to require divestment.

This argument overlooks a vital characteristic of the relationship between petitioner and its subsidiaries. Petitioner not only holds more than 10 percent of the voting securities of its subsidiaries but also controls them. Petitioner's reiteration of its contention that it is a mere "investor" in its various utility enterprises must be contrasted with the plain fact—not explicitly contested—that it controls its subsidiaries and that their acts are its acts. *Electric Bond & Share Co.* v. *Securities and Exchange Commission,* 303 U. S. 419, 440.

North American has, either directly or through its subsidiaries engaged in all the types of activities mentioned in the *Bond & Share* case as a basis for federal regulation.[14a] Here is presented the situation of a New Jersey corporation with its principal place of business in New York controlling utility

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both Maryland and Virginia, between Iowa and Missouri, and between Wisconsin and Michigan.

[14a] It is true that petitioner does not have a service company which renders and charges for services to its subsidiaries. However, services including financial advice are rendered by North American itself without charge (1 R. 101). The difference is one of degree, not kind.

companies incorporated and doing business in a great many states. Furthermore, the control is effectuated by use of the mails and facilities of interstate commerce, as when proxies are sent, e. g., from New York to Ohio, instructions or "advice" given, reports received, and the like. This relationship is obviously an interstate relationship. For example, the system sold almost half a billion dollars in securities in the three years between registration and September 1940 (9 R. 3308, 3309), and it will not be disputed, as the registration records of the Commission show, that these were largely interstate flotations.[15] The transactions involve the essence of petitioner's business and are commercial transactions which constitute commerce within the meaning of the commerce clause,[16] and since these transactions in commerce are carried out and performed by the use of the facilities of interstate commerce and "concern more states than one" they constitute interstate commerce within the meaning of the commerce clause.[17] See *The Minnesota Rate*

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[15] The North American Company itself has securities holders in every state of the Union (Pet. Br. 66) and has its debentures and preferred and common stocks listed on the New York Stock Exchange where they are actively traded. Most of the securities issued by the various companies in the North American system and not owned by system companies are similarly traded on national securities exchanges.

[16] *Associated Press* v. *National Labor Relations Board*, 301 U. S. 103, 128, and cases cited.

[17] The fact that many of these instances of communication and transportation do not occur between a vendor and vendee

Cases, 230 U. S. 352, 398; *Second Employers' Liability Cases,* 223 U. S. 1, 46; *Gibbons* v. *Ogden,* 9 Wheat. 1, 194, 195; *International Textbook Co.* v. *Pigg,* 217 U. S. 91, 107.

Plainly Congress was not acting outside its proper sphere when it dealt with the North American Company. And the North American Company is "typical" of the holding companies subject to Section 11 (b). See Brief, *Amici Curiae,* p. 6.

3. *Congress has determined that the activities of registered holding companies affect interstate commerce*

It is true, as petitioners state, that the Act contains no provision for specific finding by the Commission or by a court that the particular company subjected to an order under Section 11 (b) shall itself be engaged in interstate commerce or that the situations corrected by the order shall in the particular case have an effect on interstate commerce. But such a provision was unnecessary since Congress itself has required compliance by all properly registered holding companies and in so doing it evidenced its conclusion that they so affect interstate commerce that it is proper to apply the provisions of Section 1 (b) to them. In *United States* v. *Darby,* 312 U. S. 100, 120–121, this Court stated:

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is not material for purposes of Congressional power under the commerce clause. *The Pipe Line Cases,* 234 U. S. 548, 560; *United States* v. *Hill,* 248 U. S. 420, 423, 424.

> In such legislation Congress has sometimes left it to the courts to determine whether the intrastate activities have the prohibited effect on the commerce, as in the Sherman Act. It has sometimes left it to an administrative board or agency to determine whether the activities sought to be regulated or prohibited have such effect, as in the case of the Interstate Commerce Act, and the National Labor Relations Act, or whether they come within the statutory definition of the prohibited Act, as in the Federal Trade Commission Act. And sometimes Congress itself has said that a particular activity affects the commerce, as it did in the present Act [the Fair Labor Standards Act of 1938], the Safety Appliance Act and the Railway Labor Act. In passing on the validity of legislation of the class last mentioned the only function of courts is to determine whether the particular activity regulated or prohibited is within the reach of the federal power. See *United States* v. *Ferger, supra; Virginian Ry. Co.* v. *Federation,* 300 U. S. 515, 553.

The statute before the Court here clearly comes within the third category, in which the determination of the relation to interstate commerce is made by the Congress itself. That determination is inherent in the enactment of the statute itself. By adopting sections 2, 3, 4, and 11 of the Act Congress was asserting and declaring that the actions required of companies properly subject

to Section 11 under this statutory scheme were so related to the exercise of the commerce power as to require no additional finding by the Court or the Congress. This Court cited *United States* v. *Ferger*, 250 U. S. 199, and *Virginian Railway Co.* v. *Federation*, 300 U. S. 515, in the *Darby* case, *supra*, as cases of determination by the Congress which obviated the necessity of findings by an administrative agency or a court. See also *Colorado* v. *United States*, 271 U. S. 153. The statutes sustained by these cases contain no statement by Congress that the activity regulated was related to interstate commerce. The finding must therefore have been implied from the mere enactment of the statute and from the character of the regulation applied. Disregarding Section 1, the same is true here.

But in any event Congress in the present Act did provide an extensive explanation of its determination, in the declarations of policy contained in Section 1 of the Act. Congress in this declaration finds a widespread and frequent involvement of the activities of public utility holding companies in interstate transactions and from this draws the conclusion that such companies are "affected with a national public interest."[18]

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[18] Petitioner ignores those declarations in Section 1 (a) which refer to activities of subsidiary companies and practices of holding companies in respect thereof, on the ground that ownership of securities is not a practice in respect of subsidiary companies. But section 1 (a) (4) speaks explicitly of "control over subsidiary companies," and it is precisely such control which makes North American a hold-

Congress finds that when the abuses detailed in Section 1 "become persistent and widespread the holding company becomes an agency which, unless regulated, is injurious to investors, consumers, and the general public" (Section 1 (c)). It then declares (Section 1 (c)) that it is the policy of the Act, "in accordance with which policy all the provisions of this title shall be interpreted, to meet the problems and eliminate the evils as enumerated in this section, connected with public-utility holding companies which are engaged in interstate commerce or in activities which directly affect or burden interstate commerce." Having declared this policy Congress adopted, among others, Section 11 as well as the other regulatory provisions of the Act.[19] It would seem difficult to find a clearer statement that Congress regarded public utility holding companies as so much involved in interstate commerce and a source of so frequent abuses that the provisions of Section 11 were an appropriate exercise of the commerce power.

Petitioner, however, brings a highly technical approach to these declarations of legislative

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ing company and which will be eliminated by the disposition of the ownership of the securities now held by North American and ordered divested by the Commission.

[19] Petitioner and *Amici curiae* point out that they are challenging only Section 11, and not the other regulatory provisions. Yet their argument as to lack of findings would strike at every provision of the Act, including the registration provisions upheld in the *Electric Bond & Share* case.

policy. It is pointed out that Congress stated in Section 1 (a) of the Act five reasons why public utility holding companies are affected with a national public interest and are matters of concern under the commerce clause, and that with regard to three of those reasons Congress stated that the effects on interstate commerce occur "often". The declaration of affectation with a national public interest, and the cataloging of reasons, some of which occur universally (Secs. 1 (a) (1) and 1 (a) (5)), and some of which occur frequently (Sec. 1 (a) (2), (3) and (4)), is not only careful draftsmanship but is clearly a sufficient basis for Congressional power. The effect of abuses on interstate commerce need not be invariable; it is enough that the effect "from time to time does" occur and that the abuse is likely to recur as a "constantly possible danger." *Chicago Board of Trade* v. *Olsen,* 262 U. S. 1, 40.

Petitioner states that the declaration concerning the abuses and evils in Section 1 (b) "clearly implies that such conditions are not general." This statement is in direct contradiction both to the Congressional declaration that when such abuses become "persistent and widespread" regulation is necessary and the actual adoption of regulations by the Congress. The use of the word "when" as a means of stating a factual premise is at least as old as the Declaration of Independence.

4. Registered holding company systems are characteristically engaged in interstate activities.

There is no better summary of the ways in which holding companies affect interstate commerce than the statement in Section 1 (a) of the Act:[20]

> (a) Public-utility holding companies and their subsidiary companies are affected with a national public interest in that,

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[20] The legislative materials amply support the Congressional findings. See, e. g., as to the five findings in Section 1 (a):

(1) *Utility Corporations*, Part 72–A, pp. 346–348, 536–542. As to petitioner, the Federal Trade Commission found:

"One of the functions of The North American Co. was the negotiation for issues of senior securities of its subsidiaries. In the record a tabulation of such securities for the period 1920 to 1930 indicates that The North American Co. negotiated for the sale of over $300,000,000 principal amount thereof.

* * * * *

"*Securities issued through bankers, investment houses, and syndicates.*—The growing practice of issuing securities through holding companies which have acted for their subsidiaries has been indicated. Many issues have accordingly been actually disposed of to the general public by bankers, investment houses, or syndicates either at the instance of the issuing companies themselves or the holding companies. Indeed, it has become almost the general practice to thus sell obligations, and of the $300,000,000 of subsidiary securities sold by The North American Co., just referred to (most of which were bonds), all were sold through syndicates, principally headed by Dillon, Read & Co. * * * (*Id.* p. 347).

(2) *Id.* pp. 665, 844, 874.

(3) *Id.* pp. 39–44.

(4) Report of National Power Policy Committee, *supra*, note 3, pp. 5–7.

(5) *Utility Corporations*, Part 72–A, p. 874.

among other things, (1) their securities are widely marketed and distributed by means of the mails and instrumentalities of interstate commerce and are sold to a large number of investors in different States; (2) their service, sales, construction, and other contracts and arrangements are often made and performed by means of the mails and instrumentalities of interstate commerce; (3) their subsidiary public-utility companies often sell and transport gas and electric energy by the use of means and instrumentalities of interstate commerce; (4) their practices in respect of and control over subsidiary companies often materially affect the interstate commerce in which those companies engage; (5) their activities extending over many States are not susceptible of effective control by any State and make difficult, if not impossible, effective State regulation of public-utility companies.

We have shown that the mechanics of the Act impose its requirements on interstate holding companies, while leaving unregulated those holding companies which, even though they use the facilities of interstate commerce, are predominantly intrastate in character and within effective state control. We have shown that petitioner, a typical holding company required to register under the Act, is essentially an interstate enterprise, controlling scattered utilities by use of the facilities of interstate commerce, raising capital

in interstate commerce, and through its subsidiaries transporting power in interstate commerce. Finally, we have shown that Congress, with ample support in the materials before it, found that utility holding companies affect interstate commerce in their significant activities.

We turn now to a consideration of the ways in which holding companies have abused interstate commerce, how they have adversely affected and do adversely affect interstate commerce.

B. THE SIGNIFICANT ACTIVITIES OF REGISTERED HOLDING COMPANY SYSTEMS, CARRIED ON IN OR AFFECTING INTERSTATE COMMERCE, ADVERSELY AFFECT THAT COMMERCE TO THE DETRIMENT OF INVESTORS AND CONSUMERS.

Section 1 (b) of the Act recites the definite holding company abuses which the Congress found to be spread and perpetuated by use of the channels of interstate commerce and which experience had demonstrated could not effectively be corrected by state legislation.

The Congressional findings were based on the studies of the Federal Trade Commission and on the Splawn Report, both specifically referred to in Section 1 (b) of the Act; we state below the findings of Congress as to the abuses and make brief reference to the facts found by these studies and by disinterested students of the utility holding company industry.[21]

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[21] It is not possible within the confines of a brief to recite in any detail the evidence disclosed by the Federal Trade Commission study nor can we exhaust the huge catalog of

1. *Abuses with respect to security issues—Section 1 (b) (1)*

Congress found in Section 1 (b) (1) that holding company securities are usually issued and sold without the consent or approval of the states having jurisdiction over the subsidiary public utility companies. At the same time, the characteristics and amounts of holding company securities have a considerable effect on local regulation of operating utilities since they impel the operating companies which are under local regulation to pay maximum dividends and to engage in accounting and financial maneuvers [22] in order to maintain

abuses of holding companies there revealed. *Utility Corporations*, Part 72–A, contains a summary of many of those abuses.

[22] These financial and accounting maneuvers, coupled with the absence of adequate reports and uniform accounts, frequently conceal the unsubstantial foundation of holding company securities and make it impossible for investors in the several states to secure the information necessary for an adequate appraisal of the financial position of the companies. "* * * deceptions arise from an effort to continuously show earnings for dividend purposes and for use in published statements to influence the investing public.

"It has been found that it is quite a common practice among holding companies to overstate earnings and surplus by recording unrealized earnings. The usual ways of doing this are through counting as income intercompany profits, undistributed earnings of subsidiaries, and the erroneous recording of stock dividends, stock rights, etc., received. The creation of surplus by the inflation or write-up of assets has been very general.

"With respect to operating companies, the usual methods of overstating surplus are through inadequate provisions for depreciation, revaluations of fixed assets, and the improper capitalization of expenses." *Utility Corporations*, Part 72–A, pp. 514–515. See also pp. 528–533, 868–870.

dividends to the holding company. In addition, an inordinate resistance to otherwise proper rate reductions is created where operating companies have to support overcapitalized structures of holding companies.[23]

"Holding company securities are often issued upon the basis of fictitious asset values and in anticipation of excess revenues and paper profits" (Sec. 11 (b) (1)) at the expense of the underlying operating companies. The most familiar of these devices was the "write-up," wherein the assets of both operating companies and holding companies were arbitrarily written up in value and watered securities issued against them. The Federal Trade Commission reported, in regard to the limited number of companies studied, that—

> The ledger values of the capital assets of all the companies examined, including both holding and operating companies, contained very large amounts of write-ups. It was found that the combined amount by which the capital assets of all the companies examined were written up in value over cost exceeded 1.4 billion dollars. (*Utility Corporations*, Part 72–A, p. 845).

It is further found that the capital assets of operating companies in holding company systems were written up by 22.1%, of subholding companies by 6.5%, and of holding companies by 9.6%. In

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[23] Bonbright and Means, *The Holding Company* (1st ed. 1932), 166–170.

many cases if the write-ups in operating companies were deducted, little or no equity remained for the common stock; yet it was on the foundation of this common stock that the holding company structure was based and its securities sold to the public.[24]

The effects of write-ups are felt by both investors and consumers, as the Federal Trade Commission stated in its report to Congress:

> The effect of all this issuance of securities against written-up properties may be viewed from two angles, namely, that of the rate payer and that of the investing public. As far as the latter is concerned, it is obvious that the securities owned are not supported by values of properties which appear in the balance sheet of the company issuing such securities. In case of liquidation, it is questionable in many cases whether there could be realized sufficient cash from the sale of the assets of the company to liquidate the securities at their book values. A further effect on the investor is the fact that a failure to earn on excessive security issues and consequently to pay interest or dividends on securities issued (especially in case of heavily written-up properties) has undoubtedly been a principal cause of receiverships and other financial difficulties through which many utility systems are now passing. Practices of this sort have constituted one of the gravest

[24] *Utility Corporations*, Part 72–A, pp. 298–304.

dangers developed during the course of the entire investigation.

As to the rate-paying public, this matter is discussed at some length elsewhere (see ch. V). Suffice it to say here that while in States having utility regulation the usual theory of rate-making presupposes a return based on the actual values of properties, it is unquestionably a fact that the book values have considerable effect on the regulating authorities or complainants in rate cases. This was recognized in a recent decision of the Public Service Commission of the State of New York, in which the following statement was made: "Overcapitalization was not only undesirable from the viewpoint of the security holder, but was most detrimental to the public, for it concealed the true profits and made it appear that rates were reasonable. Such concealment was one of the reasons, if not the principal one in many instances, why companies were overcapitalized." (*Utility Corporations*, Part 72–A, p. 327.)

Most of the write-ups found in the holding and operating companies examined were reflected in security issues and were initiated by the holding-company management. The holding-company management has been generally under strong pressure to operate the controlled companies in such a manner as to earn a profitable return on the security issues, including those issued against the write-ups. This process therefore af-

> fects both the consuming and investing public. * * * (*Id.* at 845.)
>
> * * * In most instances these write-ups were injected by the controlling interests and were often based apparently on the amount of bonds and preferred stocks they thought could be marketed. * * *
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> * * * * *
>
> For the most part, all of the various forms of write-ups referred to above were capitalized through security issues, of which those not required for control purposes were sold to the investing public, insofar as possible, thus enabling those initiating such transactions to recover in cash, or in securities of the issuing companies, a substantial portion, or all, of their investment, and in a few instances even more. This had the effect of passing on to the public most of the actual investment in the assets of the operating companies whose properties had been written up in value, or of the subholding companies whose securities had been written up. * * * (*Id.* at 846, 847.)

In short, the presence of holding companies with their typically complex structures and substantial amounts of senior securities has operated to the detriment not only of widely scattered investors but also of consumers of the utility products of the underlying operating companies.

With the erection of holding-company systems on such bases it is not surprising that investors have been seriously harmed. The twin devices

of pyramiding and stock watering worked well as long as rate-making agencies were nonexistent or quiescent and earnings continued to rise; but upon the pricking of the bubble, the leverage worked in reverse [25] and many investors

[25] "Another effect is greatly to multiply the rate of return that the stockholders of the top company can obtain upon their investment in the stock through which they exercise this control, provided that the operating companies are prosperous enough to earn 8 percent [in the hypothetical case there discussed] on the total investment in their businesses. It also has the result of greatly magnifying the adverse effect upon the income accruing to the holder of the top company's securities of a small diminution in the total net income of the operating companies that constitute the bottom layer. A relatively small decline in the total gross income of the operating companies, such as is very likely to happen in an industrial depression and which did happen in the present industrial depression, may wipe out a large part of the income accruing to the first layer of subholding companies and enable them to pay the contractual rates of income on only their senior securities, leaving nothing for the common-stock equities of subholding companies in the next higher layer. Such an event is likely, in an extreme case, to result in bankruptcy of the holding companies that are higher up in the pyramid.

"* * * The common stock of the top holding company of many public-utility pyramids is extremely speculative on account of the extreme 'leverage' exercised on the earnings of the top holding company by comparatively small changes in the earnings of the underlying operating companies. It becomes a favorite stock for speculators and stimulates stock gambling. If the pyramided system falls into the hands of unscrupulous men, the possibilities of manipulation are greatly increased. A highly pyramided system (where any securities of the top holding or subholding companies are sold to the public) is dangerous and has no justification for existence." (*Utility Corporations*, Part 72–A, pp. 161, 162.)

were ruined. Prior to the passage of the Act many holding companies were either in acute distress or in bankruptcy or receivership. The failure of the pyramiding device is illustrated graphically in the fate of investors who placed their funds in "preferred" stocks of holding companies. As of December 31, 1940, preferred stocks of registered holding companies had a total involuntary liquidating value exclusive of arrears of $2,500,000,000; of this total more than half, or $1,440,000,000, were in default. The total accumulated arrears on registered holding company preferred stocks as of that date was approximately $476,000,000.[26]

Even the preferred stocks of *operating* companies in holding company systems were harmed through excessive service charges, excessive common stock dividends, upstream loans (from the operating companies to the holding companies), other extortionate holding company transactions and excessive proportions of senior securities. Of preferred stocks of operating companies in holding company systems totaling $1,700,000,000 at December 31, 1940, approximately $450,000,000 were in default, the arrears aggregating $165,000,000. These figures reveal both the injury which pyramiding has caused and is causing to

[26] These and the following figures on preferred arrearages are taken from official reports of registered holding companies filed with the Commission.

the American investors and the unhealthy and complicated corporate structures which characterize a substantial portion of the industry. They also indicate the urgent need for system rehabilitation and simplification which Congress prescribed in Section 11 (b).[27]

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[27] The great deflation and collapse of holding companies was not occasioned by any serious reduction or collapse of the earnings in the operating companies. The latters' earnings held up rather well through the depression and subsequent years. In fact, since 1929, State Commissions and the Federal Power Commission have been able to obtain rate reductions aggregating millions of dollars. Middle West Utilities, for example, which went into bankruptcy in 1932, actually had greater gross revenues from its electric and gas utilities in 1931 than it did in 1929 (based on figures reported in Moody's *Manual of Public Utilities* (1935)). A substantial proportion of its "earnings" had been previously derived from intrasystem purchases and sales at inflationary prices. As a whole, the electric utility industry had greater gross revenues in 1936 than it did in the year 1929. See *The Electric Light and Power Industry in the United States*, Edison Electric Institute Statistical Bulletin Number 9, 1941, at p. 39. The collapse of pyramided holding company systems, controlling scattered operating companies throughout the United States, can be attributed, therefore, solely to fundamental unsoundness.

As the Federal Trade Commission found, "their weakness was due in a smaller measure to the depression than to unsound intercorporate structure, unsound financial set-up, and in some cases to stupid, reckless, or dishonest practices. The reckless and dishonest ones generally suffered the most, and some of them went into receivership or became bankrupt. Any advantages of the electric and gas utility holding company in actual practice, therefore, were offset by fundamental structural disadvantages, so that in the net result *there were*

The Federal Trade Commission arrived at the generalization that "None of the large holding-company groups appears to have had a suitable capital structure from an investor's standpoint," specifying with respect to petitioner that—

> The North American Co. had outstanding only common and preferred until 1931, when it issued $25,000,000 in debentures. It had an important subholding company with common, preferred, and long-term debt outstanding It had also another large subholding company, in which the majority interest was recently acquired, which had common, preferred, and bonds outstanding, and this subholding company had three important subholding companies of its own with the same classes of securities.[28]

Just as petitioner's system enjoys no immunity from the evils of pyramiding holding company upon holding company, all with debt securities and preferred as well as common shares, so it presents examples of the characteristic holding company tendency to cause its subsidiaries to raise a maximum amount of needed additional capital by selling senior securities, and a mini-

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no demonstrable advantages as regards the investor, even for the better-managed groups, because none of the important ones even closely approximated the possibilities of a thoroughly sound and conservative organization." (*Utility Corporations*, Part 72–A, p. 860. Italics supplied.)

[28] *Utility Corporations*, Part 72–A, p. 859.

mum amount by selling common stock.[29] See, e. g., *Potomac Electric Power Co.*, 8 S. E. C. 30, 36; *Potomac Electric Power Company*, Holding Company Act Release No. 3759, pp. 7, 8 (1942).

2. Dealings not at arm's length—Section 1 (b) (2)

Congress further found that subsidiary public utility companies are subjected to excessive charges for services, construction work, equipment and materials, for the benefit of holding companies or their wholly owned service company subsidiaries. A great number of examples of this practice were disclosed by the Federal Trade Commission, whose studies showed profits to holding companies on servicing of subsidiaries sometimes higher than 190% of the cost of rendering the services.[30]

[29] This is but a natural result of the existence of holding companies which do not own all the securities of subsidiaries, for both leverage and relative voting power are diminished upon sales of common stock to the public by subsidiaries; whereas sales of senior securities, at interest or dividend rates lower than the allowable rate of return, increase leverage and generally do not endanger the holding company's control.

[30] "These examples indicate that the servicing fee has been, either directly or through an affiliate, a substantial source of net income for many of the largest utility holding companies and that this fee has been collected principally and in some cases almost wholly from controlled operating utilities. They also show that the net income from servicing is high and frequently extremely high in relation to cost. It should also be borne in mind that these costs, as regards their neces-

One aspect of excessive service charges was that the sums paid were charged as operating expenses by the operating companies and thus the profits realized on the service charges were in addition to the theoretically fair return on capital permitted the operating company.[31] In this way state regulation of rates was circumvented, since the holding companies and their wholly owned subsidiary service companies were generally incorporated outside the state of regulation, and data on the cost of rendering the services were unavailable to the state commissions.[32]

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sity and genuineness, have not been checked by the Federal Trade Commission, and, if too high, the rates of net income as computed herewith are too low." (*Utility Corporations*, Part 72–A, p. 663.)

[31] "A second source of fee income and possible profit to the holding company [in addition to charges for services which were recorded by the subsidiaries as operating expenses] is the charging of engineering fees in connection with the formulation of plans for additions and betterments to properties, fees for financing, and cost-plus fees on construction. These construction fees, instead of being expenses chargeable directly against operating revenues of the companies serviced, are capitalized when the properties are put into operation, thus increasing the rate base, and also become part of the depreciable property eventually to be covered by depreciation charges against future revenues and profits. In either case it is expected that the fees paid will be ultimately recouped by the operating company through the consumer's meter in subsequent operations." (*Utility Corporations*, Part 72–A, p. 843.)

[32] *Utility Corporations*, Part 72–A, p. 665; 844. As Congress found in Section 1 (b) (2), state regulation was also impeded because service charges were frequently allocated

Investors equally with consumers were injured by excessive service charges. Bondholders and preferred stockholders of operating companies obviously suffer a dilution of their earnings coverage, since service fees, as operating expenses, are paid to the holding company prior to the payment of interest and dividends.[33] Minority stockholders are even more directly injured, since income which might otherwise be paid as dividends to *all stockholders* is diverted to the holding company under the guise of "operating expenses."[34] Holding company security holders, though temporarily benefited by the receipt of unwarranted income, were, paradoxically, injured most of all, since securities were sold to them upon the basis of holding company income temporarily inflated by exorbitant servicing profits.

It is true that Section 13 of the Act provides for the elimination of servicing at a profit, and also for

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among subsidiaries in several states. This conclusion was reached by the Federal Trade Commission. *Utility Corporations*, Part 72-A, p. 874.

[33] *Utility Corporations*, Part 72-A, p. 658, Note 21.

[34] "* * * If by control of the voting stock of the company, expense unproductive to the company is incurred to [the controlling stockholder's] benefit," reported the Federal Trade Commission in relation to profits on servicing, "he will lose as investor in the company's stock, but gain through control of the company. In such case, any minority stockholders lose with no offsetting gain." (*Utility Corporations*, Part 72-A, p. 658, Note 20.)

regulation of the allocation of charges as between companies in holding company systems. However, regulation of this character is at best an empirical process and Congress could properly regard the simplification of holding company systems as a more adequate solution. Apart from this present relationship to Section 11, we advert to the past evils in connection with servicing because the unsound holding company structures dealt with by Section 11 (b) represent in part the capitalization of profits from servicing activities.

The Congress also found an adverse effect on the national public interest and the interest of investors and consumers when subsidiary public utility companies are required to enter into other intrasystem transactions (besides service arrangements) without arm's-length bargaining or the restraint of free and independent competition.

As the Federal Trade Commission found:

> Exaggerated capital structures may result from intercompany sales at large profits within the holding-company group of property, or stocks, whereby the final owner within the group pays exorbitant prices. If the final purchaser of such property or stocks is an operating utility, it may have the effect of increasing the rate base and the rates charged to the consumer, or, if the management proves unsuccessful

in increasing rates, it may leave the purchasing company with a capital structure upon which it cannot pay dividends, and so forth. The ease with which profits may be realized through intercompany sales of securities when there is control through ownership of voting stocks furnishes a temptation that few holding-company managements have been able to resist.

When stocks representing control are disposed of to outsiders, the control which they represent goes with them, and the gain made is on a par with any other capital gain. Where, however, the sale is between two controlled companies of the same group, there can be no independent bargaining. The gain is taken, but the control is retained, and, therefore, there is always a possibility of subsequent repetition of the process. The characteristic effect of such dealings is that they tend to inflate arbitrarily the capital structure all along the line without regard to the sound market values of the securities or other property acquisition.

* * * * *

The Federal Trade Commission's inquiries have developed numerous instances in which inflation of capital structures through intercompany profits, whether on an arbitrary basis or upon an inflated market value, due to speculation or to actual rigging of the market, during the years prior to 1930, has contributed to present-day financial embarrassments and to many

cases of receiverships of holding companies and their affiliated companies. Thus, intercompany sales within a holding-company group involve various complications and dangerous pitfalls to different interests within the same group and often result in gross misstatements of corporate earnings. * * *

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In their least objectionable use such transactions mean taking up, as intercompany profits, a part, or all, of any real increase or appreciation in value of stocks or properties that may have taken place and that might be realized by outright sale to nonaffiliated interests, and at the same time retaining operating control of the companies. In their most objectionable form they become the means of fraud through false showings of investments and earnings, resulting in the creation of a capital structure that may, sooner or later, collapse like a house of cards. Even though not pushed to this point, they are a distinct disadvantage of holding-company management from the viewpoint of sound financing. Danger of misuse, even by otherwise conservative managements, always lurks in contracts among parties controlled by the same interest. Even where conservatively used there are difficult questions involved arising from the fact that a single economic interest in dealing with itself for profit, and that often minority stock or bondholders have different inter-

> ests in these transactions. There is also the difficult question of determining what appreciation in properties has taken place and what part thereof may ethically, safely, or even legally be taken at any given time as income to meet interest and dividend requirements on capital structures inflated by this and other means. These difficulties constitute very serious drawbacks to the holding-company system and are inherent evils in such inter-company transactions. (*Utility Corporations*, Part 72–A, pp. 864, 865 and 866.)

A striking example of the dangers inherent in the holding company-subsidiary company relationship is *Murphy* v. *North American Light & Power Co.*, 106 F. (2d) 74 (C. C. A. 2.) In that case, The North American Company had contracted to underwrite over a five-year period certain offerings of common stock by its subsidiary, North American Light & Power Company. After three years, when it became evident that the common stock was of dubious value, North American tried to take advantage of an escape clause. In exchange for the $4,000,000 of cash it was required to pay to Light & Power in the last two years it took back notes, ranking ahead of the public preferred stockholders, rather than common stock, which ranked junior to them. It was left for derivative suits by public preferred stockholders to force North American to adhere

to its contract and take common stock rather than the notes.

We do not wish our reference to the *Murphy* case to raise an inference that the management of North American did not act in good faith, for the *Murphy* case did not turn on that question. Our purpose is to indicate by concrete reference the potentiality of abuse ever present in dealings between the typical holding company and its subsidiaries.

Absence of arm's-length dealing in banking relations has also been typical. It is noteworthy that investment bankers connected with the systems have played a central role in the organization and expansion of holding companies. The Federal Trade Commission found that—

> No large holding-company structure has grown to its present size without the aid of investment bankers, and it is also probably true that not many of the present holding-company structures have developed entirely without opposition from more or less powerful competitive banking groups. In consequence, almost every important holding-company group has more or less close business relations with certain investment bankers and, together with such banking interests, is more or less on the alert to forestall attempts of other holding-company managements, assisted by competing investment bankers, to encroach upon its control. The resulting situation is one in which

> there is great pressure on holding-company managements to give a great deal of attention to the desires and alignments of investment bankers in the formation and operation of holding-company groups. Professional managements apparently often give greater attention to the counsel of bankers than to the interests of widely scattered stockholders who are the equitable owners of the company so managed. (*Id.*, p. 75.)

In a number of instances in the course of the enforcement of the Act, the Securities and Exchange Commission has found that investment bankers stand in such relationship to registered holding company systems that there is liable to be an absence of arm's-length bargaining with respect to transactions between them. See *The Dayton Power and Light Company,* 8 S. E. C. 930, affirmed *sub nom. Morgan Stanley & Co., Inc.* v. *Securities Exchange Commission,* 126 F. (2d) 325 (C. C. A. 2); *Blair & Co., Inc., et al.,* Holding Company Act Release No. 4057 (1943).

These circumstances underlie the findings of the National Power Policy Committee that "fundamentally, the holding company problem always has been, and still is, as much a problem of regulating investment bankers as a problem of regulating the power industry."[35]

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[35] Report of National Power Policy Committee, *supra,* Note 3, p. 6.

3. *Control of operating companies through disproportionately small investment—Section 1 (b) (3)*

It is evident from the materials we have quoted that one of the characteristics of holding company systems is the control which they afford the junior security holders of the top holding company over huge utility empires. As the Federal Trade Commission found—

> The effect of such pyramiding is to multiply greatly the control that can be exercised by the dominant parties through their personal resources. For example, in the illustration just given, an investment of $1 in common stock of Corporation Securities Co. of Chicago would exercise control over about $2,000 invested in properties of some of the operating companies at the bottom of the pyramid. It seems very unsafe to have any form of pyramiding which has such a financial basis, not only on account of the excessive concentration of control over immense masses of property but also because of the opportunity it offers to financial adventurers to have too much influence over the general economic interests of the country. (*Utility Corporations*, Part 72–A, p. 161.)

The National Power Policy Committee reported:

> By the pyramiding of holdings through numerous intermediate holding companies and by the issue, at each level of the struc-

ture, of different classes of stock with unequal voting rights, it has frequently been possible for relatively small but powerful groups with a disproportionately small investment of their own to control and to manage solely in their own interest tremendous capital investments of other people's money. And the ownership of the stock of operating companies is but one of many devices by which a few clever men have woven the amazing network of control and influence with which they have enveloped and entangled large sectors of the gas and electric utility industry. Voting trusts, interlocking directors and officers, management contracts, the control of proxies, and other means, all have been facilely used to bring about a concentration of control in fewer and fewer hands. (*Supra,* note 3, pp. 4, 5.)

4. *Lack of integration and coordination of operating properties and lack of economies—Section 1 (b) (4)*

Another general characteristic of the holding company is the extreme degree of geographic dispersal of its subsidiaries. This arose largely from the fact that during the period of holding company expansion there was a mad scramble to buy operating properties wherever they might be bought and regardless of price. [36]

[36] The attitude of the competitors in utility empire building has been described in Bauer & Gold, *The Electric Power Industry* (1939), p. 152, by quoting the reported reply of

In this connection, the National Power Policy Committee found:

> The growth of the holding company systems has frequently been primarily dictated by promoters' dreams of far-flung power and bankers' schemes for security profits, and has often been attained with the great waste and disregard of public benefit which might be expected from such motives. Whole strings of companies with no particular relation to, and often essentially unconnected with, units in an existing system have been absorbed from time to time. The prices paid for additional units not only have been based upon inflated values but frequently have been run up out of reason by the rivalry of contending systems. Because this growth has been actuated primarily by a desire for size and the power inherent in size, the controlling groups have in many instances done no more than pay lip service to the principle of building up a system as an integrated and economic whole, which might bring actual benefits to its component parts from related operation and unified management. Instead, they have too frequently given us massive, overcapitalized organizations of ever-increasing

Samuel Insull to sharp protests at the price offered for a particular property:

"Hells Bells! I am not paying for the property, but for location. You can't pay too much when you figure what you can take out of the property in the future."

complexity and steadily diminishing coordination and efficiency.[37]

The scramble of rival holding company systems to acquire local operating utilities has resulted in undesirable operating conditions. The National Power Survey Map, "Service Areas of Principal Electric Utility Systems in the United States" (1935), published by the Federal Power Commission, reveals that operating properties owned by rival holding companies stretch out across territories in a crazy-quilt fashion, irrespective of the power needs of the area served and the needed integration of operating properties.

The results of gerrymandering by rival holding companies' acquisition of utility properties has deterred regional integration, has made power more costly, and has blocked the proper coordination of power resources. In many areas, rival systems have checkmated each other's possibilities of integrating adjacent properties and have thus prevented the most efficient utilization of the power resources of the territory. Each jealously guards its own preserve and will not permit the other to coordinate the utility assets of the area into an integrated system. Students of the utility industry point out that there has been a country-wide misintegration of generation and transmission assets. There has been—

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[37] *Supra*, note 3, p. 5.

> * * * not only uneconomical location and proportionality of generating stations, with consequent waste and duplications, but there have been particularly excessive, badly located, duplicating, overlapping and overcostly transmission lines. These were mostly planned * * * for system advantages, according to dictates of absentee control. The net result is poor economy, unnecessarily high cost of generation, haphazard interconnections, and wasteful transmission. And in most states there are extensive sections without adequate connections and with unjustifiably high cost of power.[38]

The resultant sprawling character of holding company systems raises grave doubt whether there are economic advantages in control of such properties from the headquarters of a holding company in a remote financial center.

The fundamental objectives of Section 11 in this respect find support in the recommendations of the most thoughtful students of public utilities both in this country and abroad. The Committee on Electricity Distribution, appointed by the British Ministry of Transport, reported in 1936 that the maximum benefits from centralized holding company control occur where the utility properties controlled are physically contiguous, and that such maximum benefits cannot be realized in the

[38] Bauer and Gold, *The Electric Power Industry* (1939), p. 171.

association under one ownership and management of properties serving widely separated areas. The British Committee stated:

> It will be apparent that, potentially at least, the system of Holding Companies offers certain of the advantages which we envisage as a result of the amalgamation of the smaller undertakings, such as the benefit of central management, centralized purchasing of materials, provision of adequate financial resources, etc. The evidence which has been placed before us shows that, in fact, Holding Companies have, to a considerable extent, achieved the advantages just mentioned. They have also, in planning coordinated development of their respective groups, in some degree overcome the disabilities involved in the physical separation of the various controlled undertakings.
>
> *On the other hand, the question of the physical contiguity of undertakings must be of major importance in relation to management and technical planning and development, and the maximum benefits of centralized control cannot be realized by the association under one ownership and management of undertakings covering widely separated areas.*
>
> While, in general, substantial economies can be effected by central purchasing being carried out by one controlling organization on behalf of a number of small subsidiary Companies, there is an economic limit to

the advantage accruing from large scale purchasing. We are not satisfied that any considerable benefits accrue to the larger subsidiary companies by reason of purchases being carried out by a central organization rather than by these larger subsidiaries themselves. (Report of the Committee on Electricity Distribution, May 1936, Sections 287–289.) [Italics supplied.][39]

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[39] The Splawn Report recommended to Congress that holding companies be abolished completely. See House Report No. 827, part 2, 73d Cong., 2d sess., at VII.

See also Bonbright and Means, *The Holding Company* (1932), at p. 222:

"A sound financial structure, a well integrated system of physically connected utility properties, and a scheme of management services which assures to the public, rather than to the stockholders, the primary advantage of centralized management and control, are more necessary for the country than is the continuance of hectic efforts on the part of the dozen large utility groups to expand their properties at all costs."

Barnes, *The Economics of Public Utility Regulation* (1942), concluded (p. 671):

"When the Public Utility Holding Company Act became law in 1935, the holding company system in the electric and gas utility industries was so intricate that effective regulation was impossible, so complex that investors could not accurately appraise the worth of their securities, so irrational that the potential economies of centralized operation and management could not be realized in practice, and so unnecessarily costly that the interests of consumers in low rates were prejudiced. In the interests of investors and consumers, and as a prerequisite to effective regulation, it was essential to provide for a simplification of the uneconomic complexities and an integration along rational engineering lines. * * *"

C. O. Ruggles, professor of public-utility management at the Harvard Business School and a recognized authority whose professional expertness and integrity have been acknowledged by holding-company representatives (Hearings before the Committee on Interstate Commerce, United States Senate, 74th Congress, 1st Session, on S. 1725, pp. 1009–1010), has written:

> Careful students of public utilities have realized for some time that satisfactory results could not be obtained through the management of far-flung operating companies by highly centralized, complex intercorporate organizations. It is a regrettable fact that the management of some of these super-holding companies have had very little real interest in the prosaic business of furnishing public ultility service. They have instead been primarily interested in the issue and sale of securities; and, for that reason, they have sought a form of organization which made it difficult, if not impossible, to check their accounts or subject their management of operating companies to proper supervision and control. * * * Complex intercorporate organizations which are primarily interested in the sale of public ultility securities ought to be displaced by integrated systems of such a size that the fullest possible economies may be realized without the evil effects of highly centralized control. (Ruggles, Public Utility Management and

Regulation (1935), 14 Harv. Bus. Rev. 59, at 59, 71.)

Even if substantial economies could be realized by holding company servicing of scattered properties, the dangers accompanying the resultant concentration of power in the hands of a small group might well outweigh any such relatively small dollars-and-cents benefits. In this connection, the National Power Policy Committee concluded that—

> While the distribution of gas or electricity in any given community is tolerated as a "natural monopoly" to avoid local duplication of plants, there is no justification for an extension of that idea of local monopoly to embrace the common control, by a few powerful interests, of utility plants scattered over many States and totally unconnected in operation. Such intensification of economic power beyond the point of proved economies not only is susceptible of grave abuse but is a form of private socialism inimical to the functioning of democratic institutions and the welfare of a free people.[40]

5. Impairment of state regulation

We have referred above to several of the ways in which holding companies obstruct effective public regulation of utility companies which they control—such as write-ups, excessive service

[40] *Supra*, note 3, pp. 7, 8.

charges, and sales of securities to affiliated bankers. In fact, the obstruction of State regulation by holding companies is pervasive.

As the Report of the National Power Policy Committee points out:

> Holding-company operations are too extensive, State commission power and funds too limited, to make thorough and effective State action possible. And usually the holding companies have purposely arranged their organization and operations to keep out of reach of State regulation; their lawyers have challenged the jurisdiction of such regulation. Generally a holding company itself is incorporated outside the States in which its operating companies are located and carefully does not do business within those States in a manner which will give State commissions technical power to reach the books and records of the holding company. Even if obtainable, however, such books and records will be comparatively unintelligible and even misleading until uniform accounting methods are made compulsory. There is the further difficulty of allocating the appropriate proportion of the cost of holding-company activities to its subsidiaries in a particular State, coupled with needless waste in having the process duplicated in State after State. These difficulties of State agencies are so fundamental that not even interstate compacts—assuming they could be evolved—can make State regulation practically effective with-

out supplemental help from a Federal law. (*Supra*, note 3, pp. 7, 8.)

Senator Brown of New Hampshire stated on the floor of the Senate:

> Mr. President, I have had some experience with State regulation of utilities. I served upon the New Hampshire Public Service Commission for more than seven years. * * *
>
> * * * * *
>
> About half a dozen foreign holding companies now completely dominate and control the power industry throughout the length and breadth of the State of New Hampshire. * * *
>
> * * * * *
>
> The confusing nature of the intercorporate relationships in a holding-company system hopelessly complicated the task of the State commission. The subsidiaries were all one company when it suited the holding company managers' purposes and they were separate and distinct entities with sacred constitutional rights whenever there was a chance of escaping the arm of the law.
>
> Our commission could never even be certain as to the number of holding companies doing business in the State, because it is almost impossible for a State commission to discover the holding company or companies controlling an operating company, providing the representatives of the controlling company are not d i s p o s e d to

divulge the truth of the matter. More than once have I seen the person in charge of an operating company claim and insist that he did not know where the company was located which was over him; did not know the name of his boss; and did not know where he lived.

* * * * *

In 1930, after repeated unsuccessful efforts to obtain the facts informally with relation to a holding-company system having operating companies in New Hampshire, the regulatory body of which I was a member instituted a formal investigation for the purpose of gaining information as to whether or not certain operating companies in our State, controlled by a holding-company system which is doing business over a considerable part of this country, were complying with the law and orders of the commission, and to obtain evidence in detail as to the capitalization, franchises, and manner in which the lines and property controlled by this holding-company system were managed and operated. This investigation, with the court procedure entailed, covered some two years, and certain phases of the case are now before the Supreme Court, more than five years after initial steps for investigation were taken. (79 Cong. Rec. 8705, 8706.)

An example of efforts to subvert local authority was revealed by the conviction in 1942 of the Union Electric Company of Missouri and one of its top

officers for violating the corrupt practices section of the Act, Section 12 (h). The company had raised a $600,000 slush fund by obtaining kickbacks from lawyers, contractors, etc., and a substantial portion of the money was traced to bribes paid to local officials as well as to political contributions in violation of the Act. *United States* v. *Union Electric Company of Missouri and Louis H. Egan,* D. C. E. D. Mo., No. 31882, pending on appeal. See *Boehm* v. *United States,* 123 F. (2d) 791 (C. C. A. 8), certiorari denied, 315 U. S. 800, rehearing denied, 315 U. S. 828.

As the Senate Committee on Interstate Commerce said in reference to the Act:

> In considering this point the President's message on this point should be kept in mind:
>
> "Where the utility holding company does not perform a demonstrably useful and necessary function in the operating industry and is used simply as a means of financial control, it is idle to talk of the continuation of holding companies on the assumption that regulation can protect the public against them. Regulation has small chance of ultimate success against the kind of concentrated wealth and economic power which holding companies have shown the ability to acquire in the utility field. No Government effort can be expected to carry out effective, continuous, and intricate regulation of the kind of private empires within the Nation which the holding-

company device has proved capable of creating.

"Except where it is absolutely necessary to the continued functioning of a geographically integrated operating utility system, the utility holding company with its present powers must go."

The almost impossible struggle which State regulatory commissions have waged against the giant holding companies is proof of the President's position. (Italics supplied.) (S. Rep. 621, 74th Cong., 1st sess., p. 4.)

Private utilities with their legalized monopolies are chartered to serve public ends. A far-flung disjointed system is independent and absentee so far as any particular community in its system is concerned. Its management has the problems of no one community for its exclusive consideration. It derives a great portion of its power and its profits from outside sources over which the community has no control. It can never be successfully regulated by the community it serves. It is a breeder of bad public relations.

An operating system whose management is confined in its interest, its energies, and its profits to the needs, the problems, and the service of one regional community is likely to serve that community better, to confine itself to the operating business, to be amenable to local regulation, to be attuned and responsible to the fair demands of the public, and more often to get along with the

> public to mutual advantage. A regional system, with each company confined to consolidation of its own territory, will offer no chance for the territorial raids at fantastic prices with which for fifteen years competing holding company systems disturbed the operating business. Essentially local systems will tend to operate utilities rather than to play with high finance; and essentially local enterprise is far less likely to accumulate a disproportionate amount of political and economic power. (*Id.* pp. 11 and 12).

One must also note the adverse effect on local regulation caused by the enormous concentration of power in holding companies. For example, expert testimony is frequently adduced in proceedings before local regulatory commissions on such matters as rates, accounts, and service; and this is affected by the concentration of power. The Federal Trade Commission made the following comments in regard to the "independent" engineers, accountants, and other experts who testify in such proceedings:

> In general, these practices of the holding-company groups have tended to transfer from the independent consulting professional groups working on a fee basis, many expert engineers, accountants, etc., to the salary rolls of a holding-company group and have sometimes caused other such experts, ostensibly in independent practice,

to be largely dependent upon one of these large groups.

The opportunity for a wide range of activity on a consultant basis, conducive to professional independence of attitude, has been thus greatly limited, if not practically destroyed, in the large and important public-utility fields. This is possibly one of the serious results of concentration of control of large activities under one management in that it has given such control a dominating influence over professional attitudes. * * * (*Utility Corporations,* Part. 72–A, p. 697.)

It is quite evident that the consolidation of numerous operating units of business, previously owned and managed by unrelated individuals or small groups, into a relatively few large controlling holding companies, with volumes of business justifying establishing salaried staffs of engineers, accountants, etc., has seriously limited the field of activity of consultants. Instead of 10 jobs available from 10 independent owners, the 10 jobs are reduced to only 1 or 2. The independence of the outside consultant necessarily is influenced by such a situation, especially in matters of controversy of interest between management, investors, and consumers which arise in appraisals of public utilities.

* * * * *

Though it may be recognized that consolidations of public utilities and establish-

> ment of holding companies may in some cases have brought to bear higher grade skill at less actual cost for many operating properties, it seems necessary to consider that independence of mind on many matters and availability of experienced and independent consultants have been greatly diminished thereby. (*Id.*, p. 815.)
>
> * * * It is noteworthy that, with the growth of great holding companies, the independent professional engineers in the field of electric and gas engineering have become very scarce, and their main dependence for professional work is on salaried jobs with great corporations. Independent and expert engineering opinion is, therefore, more difficult to obtain now than formerly. (*Id.*, p. 873.)

In summary, the Federal Trade Commission found as follows:

> The highly pyramided holding-company group represents the holding-company system at its worst. It is bad in that it allows one or two individuals, or a small coterie of capitalists, to control arbitrarily enormous amounts of investment supplied by many other people. In such a situation few men could be relied on to devote their attention to prudent management of the operating companies, because the speculative element is so overwhelming. It tends, apparently, to make them (1) neglect good management of operating companies,

especially by failing to provide for adequate depreciation; (2) exaggerate profits by unsound, deceptive accounting; (3) seek exorbitant profits from service fees exacted from subsidiaries; (4) disburse unearned dividends, because the apparent gains, so obtained, greatly magnify the rate of earnings for the top holding company; and (5) promote extravagant speculation in the prices of such equity stocks on the exchanges. Such concentration of control, even without that speculative pressure, appears objectionable as a matter of sound national welfare. The pyramid is bad also because it involves the sale to the public of preferred and common stocks of holding or subholding companies which have an unusually speculative character—what are aptly called "high-leverage stocks"—although many experienced, if not wise, investors have hitherto regarded some of them as of superior merit, apparently because of the magnitude of the business they controlled. The extreme danger in which such stocks would stand in case earnings declined much below the normal rate (in spite of the warnings uttered by this Commission 8 years ago) have not been understood or believed. But, on the other hand, a sharp distinction should be made between such pyramided holding companies and the single holding company issuing only common stock and owning all of the common stocks of its operating subsidiaries, which under favorable conditions may deserve a

> rating as "business man's investment." Finally, the exaggerated importance to the top holding company of comparatively small differences in the profit of the operating companies greatly enhances the incentive of the holding company to increase such profits, or to obtain a revenue through the exaction of service and other fees in addition to the ordinary revenue by way of dividends. (*Id.*, p. 860.)

These abuses of holding companies, found by the Congress in Section 1 (b) and fully disclosed in the data before the Congress, find their climax in their detrimental effect on consumers and investors. Consumers are harmed by virtue of the strong tendency of many holding company practices to limit rate reductions and impede state rate regulation. Investors are injured because of the adverse effects of holding company structures and practices on values and prices of securities.

The ultimate conclusion of the Federal Trade Commission was that—

> The cumulative effect of some of these abuses undoubtedly resulted in the maintenance of higher than reasonable rates to the consumer and unfavorably affected the value of the securities in the hands of many investors. (*Id.*, p. 882.)

These are the evils and abuses which Congress sought to eliminate. Congress found that these evils and abuses are spread and perpetuated by the business activities carried on by utility hold-

ing companies through interstate commerce. Cf. *Utility Corporations*, Part 73–A, pp. 31–36, 41–58, 205–218.

The concern of Congress over these abuses stems from the fact that much of the power and gas involved is sold in interstate commerce, that huge additional amounts are sold to those producing in and for the commerce, that holding companies raise capital for themselves and their subsidiaries by selling securities in interstate commerce, that those securities are constantly bought and sold in interstate commerce, frequently on national securities exchanges, and that national intervention was required if these activities were adequately to be dealt with in the interest of investors and consumers.

C. CONGRESS HAS POWER UNDER THE COMMERCE CLAUSE TO REGULATE REGISTERED HOLDING COMPANIES BY ELIMINATION OR APPROPRIATE LIMITATION AS PROVIDED IN SECTION 11 (B)

At the outset of the discussion of the commerce power, two preliminary observations should be made. The first is that in view of the extensive Congressional study of public utility holding companies, the findings of Congress, and the provisions of the Act itself, the burden rests on petitioner to establish that no rational foundation exists for concluding that Section 11 (b) (1) is a legitimate exercise of the commerce power as applied to petitioner.[41] It is submitted that this

[41] See, e. g., *United States* v. *Lowden*, 308 U. S. 225, 239, 240; *Stafford* v. *Wallace*, 258 U. S. 495, 521.

burden has not been assumed, much less discharged.

The second observation to be made is that the Act, and Section 11 (b) in particular, are in the conservative tradition of federalism. The Act as a whole exhibits a careful regard for the preservation of local regulation of local utility operations.[42]

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[42] Section 6 (a) regulates the issuance and sale of securities by registered holding companies and their subsidiaries, but an exemption from the provisions of Section 6 (a) is provided in Section 6 (b), in the case of a security issued or sold by a subsidiary company of a registered holding company "if the issue and sale of such security are solely for the purpose of financing the business of such subsidiary company *and have been expressly authorized by the State commission of the State in which such subsidiary company is organized and doing business* * * *." [Italics supplied.] Section 9 (a) regulates the acquisition of utility assets by registered holding companies and their subsidiaries, but an exemption is provided in Section 9 (b) where a state commission has expressly authorized an acquisition of utility assets by a public utility company. Where common ownership of competing electric and gas facilities is unlawful under state law or must receive state commission approval, under Section 8 the holding company device may not be used to circumvent such state laws. In Section 11 (b) (1) it is provided that the utility operations of a holding company system must be confined to a single integrated public utility system with provision for the retention of additional integrated public utility systems only if three standards are met, one of which is that "(C) The continued combination of such systems under the control of such holding company is not so large (considering the state of the art and the area or region affected) as to impair the advantages of localized management, efficient operation, or *the effectiveness of regulation.*" [Italics supplied.] An integrated public utility system, under Section 2 (a) (29), may not be so large as to impair

It has been pointed out (*supra*, pp. 63–71) that one of the serious abuses characteristic of far-flung holding company systems has been the impairment of local regulatory control. Section 11 (b) is designed to strengthen local control by restoring to the states the practical and legal power to cope with important aspects of utility operations. This is not only its effect, but was its deliberate purpose. The Senate Committee Report stated (S. Rep. 621, 74th Cong., 1st sess., p. 11):

> As has been pointed out above, the purpose of section 11 is simply to provide a mechanism to create conditions under which effective Federal and State regulation will be possible. It is therefore the very heart of the title, the section most essential to the accomplishment of the purposes set forth in the President's message.

The use of the commerce power to achieve this objective is, of course, a familiar exercise of national power in the interest of a working federal-

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effective regulation. Under Section 18 (b) the Commission is given the power to conduct investigations "at the request of a state commission" and several states have had occasion to receive this benefit, *New England Power Service Company*, Holding Company Act Release No. 3135 (1941); *American Water Works and Electric Company, Inc.*, Holding Company Act Release No. 4085 (1943). As regards jurisdiction of the Commission over accounts, Section 20 (b) provides that the Holding Company Act does not relieve a public utility company of the duty of keeping any accounts which may be required to be kept by a state law or by a state commission, and any accounting requirements imposed by the Commission shall not be inconsistent with state requirements. See also Section 13 (d).

ism. *Kentucky Whip & Collar Co.* v. *Illinois Central R. Co.*, 299 U. S. 334; *In re Rahrer*, 140 U. S. 545; *Clark Distilling Co.* v. *Western Maryland Ry. Co.*, 242 U. S. 311; *United States* v. *Hill*, 248 U. S. 420.

Thus in the present Act, Congress has exercised its power in the interest both of the states and the nation. The interstate commerce which Congress is here seeking to foster and protect has many important aspects. In general, however, these aspects may be subsumed under two main categories: (a) the interstate transmission of electric energy and gas, its distribution to enterprises in interstate commerce, and the rational interstate coordination of utility resources; and (b) the interstate functions of holding companies in the marketing of securities, exercising of control, and performance of services by one member of a system for others. In both these major aspects the essential activities of the holding company system are subject to national control.

It cannot be questioned that the interstate transmission of electricity is a subject within the regulatory power of Congress. This is true whether the transmission is for sale to independent or affiliated companies or is for sale to ultimate consumers.[43] *The Pipe Line Cases*, 234 U. S. 548;

[43] The Act does not regulate local retail rates, and it is unnecessary to consider the respective power of the states and national government in that regard. Cf. *East Ohio Gas Co.* v. *Tax Commission of Ohio*, 283 U. S. 465.

Pennsylvania Gas Company v. *Public Service Commission*, 252 U. S. 23. Indeed, the power of Congress does not depend at all upon an interstate transaction of sale. As this Court pointed out in *United States* v. *Hill*, 248 U. S. 420, 424: "The transportation of one's own goods from State to State is interstate commerce, and, as such, subject to the regulatory power of Congress. *Pipe Line Cases*, 234 U. S. 548, 560." Interstate transmission is as much within the power of Congress as the function of radio broadcasting; "By its very nature," to adopt the language of this Court in *Fisher's Blend Station, Inc.* v. *Tax Commission*, 297 U. S. 650, 655, it "transcends state lines and is national in its scope and importance—characteristics which bring it within the purpose and protection, and subject it to the control, of the commerce clause." The authority under the commerce clause is properly called into play for the protection and fostering of such commerce, and for the prevention of the spread of injury to persons in the several states by means of such commerce. The injury may, of course, be financial no less than physical. The injury may be done to consumers no less than to competitors. This is plain under the decisions involving pure food and drug legislation and the antitrust laws. *Hipolite Egg Co.* v. *United States*, 220 U. S. 45; *McDermott* v. *Wisconsin*, 228 U. S. 115; *Northern Securities Co.* v. *United States*, 193 U. S. 197. And the power

of Congress may be directed at the financial practices and corporate structure of agencies of interstate transmission in the interest of services which they render. Cf. *Dayton-Goose Creek Railway Company* v. *United States*, 263 U. S. 456. The healthy conduct of interstate commerce in gas and electricity may not be impaired by the co-existence of intrastate activities on the part of those conducting that commerce. *Delaware, Lackawanna & Western R. R.* v. *United States*, 231 U. S. 363, 370.

In addition, as stated above, the interstate business of holding companies such as petitioner, viewed as a far-flung enterprise for the marketing of securities, the maintenance of control, and the rendering of services and assistance to affiliated companies, brings it within the reach of the commerce clause. In *Electric Bond & Share Company* v. *Securities and Exchange Commission*, 303 U. S. 419, the Court described the manifold interstate activities of the system, outlining not only the interstate transmission of energy but also the performance of services and rendering of assistance to subsidiaries and the distribution of securities (pp. 432–433); and the Court, without having to pass on the permissible scope of regulation, concluded that the members of the system bore a "highly important relation to interstate commerce and the national economy" (p. 441)."

"The essentially interstate character of utility holding company activities, and the necessity of federal intervention,

Similarly, sales of power and gas to those producing for and in interstate commerce affect that commerce. *National Labor Relations Board* v.

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were thus described by Senator Borah in the debates on the present Act:

"The activities of some of these holding companies have been perfectly lawless. They have been in disregard of the interests of those to whom they were selling their stocks and their securities. They have been in disregard of the interests of the community and they have been in disregard of the interests of the entire country. It is by reason of those things that it became absolutely necessary that the Congress of the United States deal with the subject matter covered by the bill before us.

"We certainly could not permit those things to go on indefinitely. We certainly could not permit such practices to prevail as a permanent proposition; somebody had to deal with the question. I know of nobody to deal with such companies as those which spread across State lines and control subsidiaries acting in different States of the Union except the Congress of the United States.

"* * * it seems to me that a company which owns 30 or 40 or even 5 or 6 subsidiary companies and affiliates, which subsidiary companies are operating in different States, and which this holding company must control by utilizing the means of transportation or the means of communication between the different States— a holding company which conducts the business, determines the policy, and directs the course of these different subsidiary companies, and does it through employing the channels either of the mail or of the telephone or of the telegraph—must necessarily be under the control of the National Congress, or under the control of nobody whatever. They would be in a 'no man's land' if that were not true." (79 Cong. Rec. p. 9049.)

That no such hiatus exists under the Constitution is made clear by this Court in *United States* v. *Wrightwood Dairy Corp.*, 315 U. S. 110, 118.

Consolidated Edison Company, 305 U. S. 197. Furthermore, holding company systems, through their concentrated control of buying power, substantially affect the flow in interstate commerce of coal, equipment, and other commodities of which they are important consumers.

The essentially interstate character of the business of petitioner is not significantly different from that of the news gathering and news disseminating agency whose operations were considered in *Associated Press* v. *National Labor Relations Board,* 301 U. S. 103, 128–129. There it was contended that the Associated Press was not subject to Congressional authority because it was not engaged in business for profit; because it sold information only to its members; because news reports are not a subject of commerce; and because title to the news remained in the Association during transmission. These contentions were rejected by the Court, in an opinion which emphasized that interstate communication of a business nature is interstate commerce within the regulatory power of Congress. The Court said (pp. 128–129):

> It [The Associated Press] is an instrumentality set up by constituent members who are engaged in a commercial business for profit, and as such instrumentality acts as an exchange or clearing house of news as between the respective members, and as a supplier to members, of news gathered through its own domestic and foreign activi-

ties. These operations involve the constant use of channels of interstate and foreign communication. They amount to commercial intercourse, and such intercourse is commerce within the meaning of the Constitution. [*Gibbons* v. *Ogden*, 9 Wheat. 1, 189.] Interstate communication of a business nature, whatever the means of such communication, is interstate commerce regulable by Congress under the Constitution. [*Pensacola Telegraph Co.* v. *Western Union*, 96 U. S. 1, 9, 10; *Federal Radio Comm'n* v. *Nelson Bros. Co.*, 289 U. S. 266, 279; *International Textbook Co.* v. *Pigg*, 217 U. S. 91, 107; *Indiana Farmer's Guide Publishing Co.* v. *Prairie Farmer Publishing Co.*, 293 U. S. 268, 276.] This conclusion is unaffected by the fact that the petitioner does not sell news and does not operate for profit [*United States* v. *Hill*, 248 U. S. 420; *United States* v. *Simpson*, 252 U. S. 465], or that technically the title to the news remains in the petitioner during interstate transmission. [*Pipe Line Cases*, 234 U. S. 548, 560.] Petitioner being so engaged in interstate commerce, the Congress may adopt appropriate regulations of its activities for the protection and advancement, and for the insurance of the safety of, such commerce.

It is important to recall that the use of the facilities of interstate commerce by petitioner is not casual, incidental, or collateral. The use is of the essence of its business. It is not an ap-

pendage, but the very bone and sinew of its enterprise. The abuses and opportunities for abuse which Congress found to be inherent in the utilities holding company system depend upon the employment of interstate commerce. They become a matter of national concern because they are spread and perpetuated by means of interstate commerce. In these circumstances Congress was at liberty to exercise its power under the commerce clause in an effort to eliminate or ameliorate those abuses. That effort was properly made in the interest of investors as well as of consumers. Cf. *New York Central Securities Corp.* v. *United States,* 287 U. S. 12; *Securities and Exchange Com'n* v. *Crude Oil Corporation of America,* 93 F. (2d) 844 (C. C. A. 7) (Securities Act of 1933); *Coplin* v. *United States,* 88 F. (2d) 652 (C. C. A. 9) (same). The power of Congress to prevent the spread of harm, whether it be moral or physical or financial, through the use of interstate commerce, was succinctly described by this Court in *Brooks* v. *United States,* 267 U. S. 432, 436–437:

> Congress can certainly regulate interstate commerce to the extent of forbidding and punishing the use of such commerce as an agency to promote immorality, dishonesty or the spread of any evil or harm to the people of other States from the State of origin. In doing this it is merely exercising the police power, for the benefit of

> the public, within the field of interstate commerce. * * *

The power of Congress is not limited to forbidding the interstate movement by which injurious practices are given national effect. Such a power has, of course, been frequently exercised. See *Kentucky Whip & Collar Co.* v. *Illinois Central R. Co.*, 299 U. S. 334. For, as was said in *Electric Bond & Share* v. *Securities and Exchange Commission*, 303 U. S. 419, 442, "When Congress lays down a valid rule to govern those engaged in transactions in interstate commerce, Congress may deny to those who violate the rule the right to engage in such transactions." But this is only one kind of sanction which Congress may employ. Congress may elect to reach the evil at its source. This is an equally familiar sanction. *Wickard* v. *Filburn*, No. 59, present term; *United States* v. *Darby*, 312 U. S. 100; *National Labor Relations Board* v. *Jones & Laughlin Steel Corp.*, 301 U. S. 1; *Chicago Board of Trade* v. *Olsen*, 262 U. S. 1; *Stafford* v. *Wallace*, 258 U. S. 495. Indeed, it is the very remedy which Congress employed half a century ago in the antitrust laws and which was early applied to the railroad holding company. *Northern Securities Co.* v. *United States*, 193 U. S. 197. The remedy of dissolution or divestment has frequently been applied under the antitrust acts, and under the commodities clause of the Hepburn Act. *Standard Oil Company* v. *United States*, 221 U. S. 1; *Continental Ins. Co.* v. *United States*, 259

U. S. 156; *United States* v. *Lehigh Valley Railroad*, 220 U. S. 257; *United States* v. *Delaware, Lackawanna & Western Railroad Company*, 238 U. S. 516.

The Congress might have dealt with the problem of interstate utility holding companies by abolishing them entirely or prohibiting their interstate transactions. Instead, the solution adopted by the Congress in the Act was the more moderate one of their elimination if they cannot meet the standards of Section 11 (b) of the Act. The standard in Section 11 (b) (1) is the limitation of the operations of a holding company system to a single integrated public utility system with provision for the retention of additional systems only if they are relatively small, located close to the single system and unable to operate economically under separate management without the loss of substantial economies; similarly, other holdings may be retained only if their retention is related to the operations of the retained utility properties. The standard in Section 11 (b) (2) permits the continued existence of holding companies only where they perform some useful function and do not represent pyramiding, where they have simple structures and are not the cause of unfair or inequitable distribution of voting power.

This classification of permissible and nonpermissible holding company structures is a reasonable one. It represents a relaxation of the policy of elimination in order to permit certain advan-

tages to be realized by what Congress regarded as a legitimate limited employment of the holding company device.

Moreover, this relaxation is itself related to the regulation of interstate commerce. Holding companies permitted to exist under the limitations of Section 11 (b) are localized companies of simple structure in which the likelihood of abuses burdening and obstructing interstate commerce is relatively small. The provisions of Section 11 (b) which permit the continued existence of such companies are thus reasonably related to prevention of the evils affecting interstate commerce which Congress found to exist.

Furthermore, section 11 (b) tends to encourage the efficient coordination of geographically related utility properties as opposed to the scatteration and gerrymandering which have characterized the acquisition and control of operating properties by far-flung holding company enterprises.

II. SECTION 11 (B) (1) DOES NOT VIOLATE THE FIFTH AMENDMENT

North American's argument that Section 11 (b) (1) violates the Fifth Amendment is based on two premises: First, that divestment will terminate contractual relationships and thus will involve a deprivation of property without due process of law; and, second, that such evils as were found to exist in public utility holding companies find an adequate remedy in other sections of the Act.

Amici curiae, in their brief, urge further that notice to, and a vote of, security holders are required under the due process clause as a condition to an order under Section 11 (b).

A. SECTION 11 (B) (1) DOES NOT VIOLATE DUE PROCESS BECAUSE OF ITS EFFECT ON VALUES

The validity or invalidity of a statute under the due process clause depends on the question whether the law is unreasonable, arbitrary and capricious, and whether the means selected have a real and substantial relation to the object sought to be obtained. *Nebbia* v. *New York,* 291 U. S. 502, 525. Congress found that substantial evils result from the business of public utility holding companies. (Section 1 of the Act.) We have shown in Part I–C above that Section 11 (b) (1) is reasonably adapted to the amelioration of these evils. Accordingly, Section 11 (b) (1) does not transgress the due process clause. This is true even though it may require the alteration of "vested" property rights. *Mugler* v. *Kansas,* 123 U. S. 623; *Austin* v. *Tennessee,* 179 U. S. 343; *Booth* v. *Illinois,* 184 U. S. 425; *Otis* v. *Parker,* 187 U. S. 606; *Louisville & Nashville R. R. Co.* v. *Mottley,* 219 U. S. 467; *Rast* v. *Van Deman & Lewis Co.,* 240 U. S. 342, 368; *Continental Ins. Co.* v. *United States,* 259 U. S. 156.

Petitioner argues that Section 11, by ordering North American to divest itself of its scattered subsidiaries and to confine its operations to the

single integrated and geographically restricted system of the Union Electric Company of Missouri, involves a taking of property without just compensation. The company relies primarily upon *Louisville Joint Stock Land Bank* v. *Radford*, 295 U. S. 555. In making this argument petitioners assume that the regulation is a reasonable one and that the only question is whether compensation is required. The argument ignores the consequences of the order which is before this Court. The order in question does not take property from any person and give it to another. The security holders of the company who now own interests in the subsidiaries of the North American Company indirectly through investment in the North American Company will, on compliance with the order, hold those same investments in a different form or they will receive cash in full compensation for those investments.

North American's claims of injury in the present case are that investors are deprived of their "right" to pool their investments in the North American Company.[45] The removal of similar

[45] This "right" is asserted to give the security holders a right greater than that of holding interests in the subsidiaries directly, the value of which is asserted to lie in the continuance of the present managing personnel of North American and in the diversity of investment.

North American argues that its security holders will suffer depreciation in the value of their investments, upon compliance with the divestment order. This is speculation.

rights has been held to raise no constitutional barrier in the cases under the Anti-trust laws, e. g., *Northern Securities Co.* v. *United States*, 193 U. S. 197; *Continental Ins. Co.* v. *United States*, 259 U. S. 156.[46]

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and in fact independent statistical services reach a contrary conclusion. According to "The Outlook" (publication of Standard and Poor's Corporation, Vol. 15, No. 3, Section 1, p. 823, March 29, 1943), the estimated liquidating value of the common stock of North American was $21 as of March 13, 1943, as compared with a market price of $12⅝. A similar analysis as of February 9, 1942 (Vol. 13, No. 6, Section 1, p. 936) showed a liquidating value of $16 for North American's common stock as compared with a then market value of $9⅜. As of February 17, 1941 (Vol. 17, No. 7, Section 1, p. 920) the liquidating value was $21 per share and the then marked price was $15 per share. Another financial journal likewise calculates the liquidating value of North American Company stock at $21 per share, and states, in regard to the instant review, "Regardless of the decision which that Court reaches, there seems to be little reason for apprehension by North American Company stockholders." (*Barrons*, April 5, 1943, Vol. XXIII, No. 14, p. 18.) *Moody's Stock Survey*, in January, 1943, stated: "The present liquidating value of the shares is estimated to be appreciably in excess of the current market price." (Vol. 35, No. 3, p. 578.) These figures—representative of those relating to holding companies generally, as the articles in "The Outlook" reveal—indicate that holding company securities sell at substantial discounts from their break-up values, which scarcely betokens opinion on the part of investors that "the whole is greater than the sum of the separate parts" (Pet. Br. 61) in the case of holding companies in general, or North American in particular.

[46] Petitioner and *Amici curiae* argue further that the statute is invalid since it requires disposition of security holdings and the termination of relationships which antedate the passage of the Act. But the statute merely requires that

Further, petitioner argues that the statute and order "involve a vast destruction of values" (Pet. p. 60). In so far as this argument is predicated on the hypothesis that a holding company contributes to the earning power, and therefore to the intrinsic value, of assets which must be divested pursuant to Section 11, the record in this case plainly demonstrates the insubstantiality of the assumption as applied to North American. North American's contribution to the management of its underlying subsidiaries is largely limited to financial matters. The economic value to North American's security holders of such a contribution must be weighed against the added costs incident to maintaining the separate corporate existence of North American, as well as the salary costs of the personnel involved.[47] Moreover, Congress, in the exercise of its legislative judgment, has concluded that the economic advantages, if any, from the spreading of management costs over a vast empire are not commensurate with the economic, social, and political disadvantages, and

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such ownership be no longer continued, and does not penalize past ownership. The Antitrust and Hepburn Act cases make it clear that no constitutional objection can be sustained to a regulation of this type merely because it requires alteration of relations existing prior to the effective date of the statute. See *United States* v. *Trans-Missouri Freight Ass'n*, 166 U. S. 290, 342; *United States* v. *Delaware & Hudson Co.*, 213 U. S. 366.

[47] Three officers of petitioner receive salaries of $75,000 per annum (9 R. 3314, 3315).

this conclusion was amply justified by the studies of the holding company systems which preceded the passage of the Act.

In so far as the argument as to "destruction of values" is predicated on the assumption that in the process of limiting the scope of operations of its holding company there will be dispositions for an inadequate consideration in relation to the value of the assets involved, the argument fails to take into account the reorganization machinery provided in Sections 11 (d) and 11 (e) of the Holding Company Act. Under these provisions the assets of the holding company (i. e., the securities which it owns of its subsidiaries and its miscellaneous investments) need not be sold to outside interests but may be distributed among North American's security holders in accordance with a "fair and equitable reorganization plan." There is provision for determination of the fairness of any such plan, both by the Commission and by the enforcement courts. One such plan was recently before this Court in *Securities and Exchange Commission* v. *Chenery Corp.*, No. 254, decided February 1, 1943. It cannot now be argued, for the purpose of conjuring up obstacles to the entry of an order requiring North American to comply with the provisions of Section 11 (b) (1), that there will be any unfairness in whatever plan may hereafter be approved. North Ameri-

can, of course, makes no such argument but simply ignores the availability of the reorganization machinery in the Act."

As the Senate Committee on Interstate Commerce reported, in reference to a bill containing more drastic limitations of holding companies, but the same enforcement provisions:

> An argument has been given wide-spread currency by the opponents of the title that the elimination of the giant holding companies will demoralize the market for all operating securities because many operating-company securities will be thrown upon the market by the giant holding companies in the course of their dissolution. The argument is premised on the false assumption that the proposed title will cause the dumping or forced liquidation of securities by the giant holding companies. As has been explained above, the title does not require the dumping or forced liquidation of securities. Such disposition as may be necessary can be accomplished by reorganization which will equitably redistribute securities among existing security holders. Insofar as there may be some redistribution of the

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[48] For example, it is not true, as petitioner implies (Pet. Br. 64) that compliance requires payment in cash of existing bondholders and preferred stockholders of North American. A "fair and equitable" plan of compliance might well provide for payment in securities of subsidiary companies in amounts adequate to protect all rights of North American's security holders.

> securities of operating companies through investment banking channels, this will not result in a substantial net increase in the supply of utility securities on the market because for every block of operating securities distributed there will be a corresponding block of holding-company securities retired. The net effect of such changes will be to strengthen the market for utility securities generally by replacing holding-company securities with sound operating-company securities. Such operations, primarily of a refunding nature, should strengthen rather than weaken the credit of operating companies. (S. Rep. No. 621, 74th Cong., 1st sess., p. 16.)

Furthermore, the provisions of the statute are carefully designed to avoid the necessity of unduly rapid liquidation. Holding companies are given a period of at least a year to comply with the Commission's order.[49] The provisions in the Act as to the time for compliance are far more liberal than the time schedule prescribed by this court for compliance with decrees of divestment under the Anti-trust Act. The court in *United States* v. *American Tobacco Co.*, 221 U. S. 106, 187–188, ordered dissolution and reorganization of the American Tobacco Company. It decreed:

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[49] See Section 11 (c) of the Act. This section authorizes the Commission to extend the time for an additional period of a year upon a proper showing.

> * * * for the accomplishment of these purposes, taking into view the difficulty of the situation, a period of six months is allowed from the receipt of our mandate, with leave, however, in the event, in the judgment of the court below, the necessities of the situation require, to extend such period to a further time not to exceed sixty days. * * *

The manner in which compliance is presently being effectuated scarcely supports the contention that hardship is entailed. Petitioner itself, ordered in this proceeding to divest itself of its holdings of Detroit Edison Company common stock, has disposed of such holdings by distributing the stock to petitioner's stockholders over a period of time in lieu of cash dividends, cash being used to retire a portion of petitioner's debentures. *The North American Company,* Holding Company Act Release No. 4056 (1943). In the same manner it has disposed of a portion of its holdings of Washington Railway and Electric Company. A subsidiary of petitioner, North American Light & Power Company, ordered to liquidate under Section 11 (b) (2), has sold some of its assets and retired its publicly held debentures. *North American Light & Power Company,* Holding Company Act Release No. 3658 (1942). See *City National Bank and Trust Co.* v. *S. E. C.* (C. C. A. 7, March 5, 1943).

In other holding company systems, portfolio securities have been exchanged for senior securities of the holding company,[50] and indebtedness has been retired by application of proceeds of sales of portfolio securities.[51]

With respect to the timing of the requirement for compliance, it should be observed that since 1935 North American has been on notice that it must limit its operations in accordance with Section 11. Since January 1936, it has had available to it for this purpose the machinery for voluntary action provided by Section 11 (e) of the Act. It did not choose to avail itself of the provisions of that section; rather it has waited until ordered to comply with the statute.

What the market will do in the future is, and will always be, problematical. Today, the assumption of the North American Company is that it will rise. An assumption equally possible is that

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[50] *Standard Gas and Electric Company*, 7 S. E. C. 1089, 8 S. E. C. 481; *National Power and Light Company*, Holding Company Act Release No. 3211 (1941); *Federal Water and Gas Corporation*, Holding Company Act Release No. 4113 (1943); *United Gas Improvement Company*, Holding Company Act Release No. 4173 (1943); *Lone Star Gas Corporation*, Holding Company Act Release No. 3865 (1942).

[51] *United Light & Power Company*, Holding Company Act Release No. 3345 (1942), see *New York Trust Co.* v. *Securities and Exchange Commission*, 131 F. (2d) 274 (C. C. A. 2); *Central States Utilities Corporation*, Holding Company Act Release No. 3947 (1942).

it may fall. In such case disposition or reorganization within the near future may result in preventing a further decrease in the value of the common stock. Certainly the speculative possibility that a more favorable market will occur at some time in the future, or that retention of an investment will be more advantageous financially than its disposition, are not of such substance as to raise doubts concerning the constitutionality of a carefully worked out Congressional policy.

B. 11 (B) (1) IS AN APPROPRIATE REMEDY FOR THE EVILS EXISTING IN PUBLIC UTILITY HOLDING COMPANIES DESPITE THE APPLICATION OF OTHER REMEDIES FOR SOME OF THE SAME EVILS

North American, contending that Section 11 (b) (1) is not an appropriate method of abolishing the existing abuses, refers in detail to other sections of the Act which regulate specific activities of holding companies and their subsidiaries.

The basic difficulty with this approach is that it totally fails to recognize that in large part the other sections mentioned regulate future transactions by holding companies rather than provide for eliminating the existing conditions that Congress has found adversely affect the national public interest. To be sure, Congress might have determined that by regulating future transactions it would in time achieve its goal. As we have pointed out, Congress concluded that this would be an inadequate solution. But in any event it

was a question for Congressional discretion, rather than a question of Congressional power, whether is was desirable to allow the evils to continue until the completion of a long-drawn-out process of curing them by regulating future transactions.

Once it is established that a means selected by Congress is adapted to remedy a situation within Congressional power, the appropriateness of the remedy chosen by Congress is, of course, a matter for Congress. In *Sunshine Anthracite Coal Co.* v. *Adkins*, 310 U. S. 381, 394, the Court said:

> But appellant claims that this Act is not an appropriate exercise of the Congressional power. It urges that the nature and use of bituminous coal in nowise endanger the health and morals of the populace * * * that the increase of prices will * * * add to the afflictions which beset the industry; * * *. Those matters, however, relate to questions of policy, to the wisdom of the legislation, and to the *appropriateness of the remedy chosen—matters which are not our concern.* If we endeavored to appraise them we would be trespassing on the legislative domain. * * *

As the court below held:

> Congress did not think it could accomplish its object solely by regulating future transactions, although many of the provisions of the Act apply only to them * * *

> The wisdom of the legislation and the appropriateness of the remedy chosen is not the concern of the courts.

It is clear in any event, from what has been stated in Point I C above, that the method chosen by Congress in Section 11 (b) (1) to meet the evils inherent in the business of holding companies is reasonably adapted to the end sought.

Finally, the provisions regulating future activities are not adequate to deal with the major matters of concern under Section 11. Particularly is this so with reference to Section 11 (b) (1) here in litigation. As a remedy for evils which Congress found to exist "when the growth and extension of holding companies bears no relation to economy of management and operation or the integration and coordination of related operating properties," petitioner suggests that existing lack of integration and coordination is subject to the power of the Federal Power Commission to compel the physical connection of transmission facilities (Pet. Br. 69, Item 9). It is clear that the mere interconnection of facilities, were it possible, would not make an integrated and related whole of scattered and functionally unrelated properties. Concretely, this argument is that the existing uneconomic and uncoordinated situation of the properties of the North American Company could be cured merely by running a transmission line

from the District of Columbia through Cleveland, Milwaukee, and St. Louis to San Francisco. Even were such an engineering feat possible, it could not make of the scattered properties of the North American Company an integrated and related whole. So it is clear that the remedies provided elsewhere than in Section 11 (b) (1) are not of themselves sufficient to meet the evils which Congress found to exist. The same defect appears in petitioner's treatment of Section 11 (b) (2) (see Pet. Br. 69, Item 8).

C. THE PROCEDURE PROVIDED IN SECTION 11 DOES NOT VIOLATE DUE PROCESS

Amici curiae raise the objection, not made by petitioner, that the statute is defective for want of a requirement of notice to, and vote by, security holders. It is difficult to fathom just what the *amici* would wish the security holders to vote on. They cite cases regarding voting by security holders on plans of reorganization, but here there is as yet no such plan. The only determination that has been made thus far is a determination of what end result must be reached to comply with the provisions of the Act. Would the *amici* wish to submit to a vote of security holders the question whether North American should comply with the Act and the further question as to what the Act requires of North American? Clearly the matters thus far

determined by the Commission have not been of a kind appropriate for submission to a vote of security holders. This was explicitly held by the Circuit Court of Appeals for the Third Circuit in *Commonwealth and Southern Corp.* v. *Securities and Exchange Commission,* March 31, 1943.

Asserting that "There is something startling" (Brief of *Amici Curiae,* p. 45) about a divestment order without a vote of security holders, *amici* ask: "Why has this not been done in the railroad field?" (p. 46). The short answer is that it has been done in the railroad field. *Northern Securities Co.* v. *United States,* 193 U. S. 197; *United States* v. *Union Pacific R. Co.,* 226 U. S. 61. And it has been done in other fields as well. *United States* v. *American Tobacco Co.,* 221 U. S. 106; *Continental Ins. Co.* v. *United States,* 259 U. S. 156.

When a plan of compliance with the Section 11 (b) (1) order is evolved, the question whether there should be a vote of security holders will properly arise. In regard to Section 11 (e) plans, the Commission has stated its position in *Great Lakes Utility Company,* Holding Company Act Release No. 3419 (1942):

> The plan does not provide for submission of the Amended Plan to security holders for their approval. Neither Section 11 (e) nor 11 (d) contain requirements for

obtaining security holders' approval, and in view of overriding considerations of public policy, it was obviously intended by Congress that a plan found by this Commission, and by a Federal Court, to be fair and equitable to persons affected, and necessary and appropriate to effectuate the provisions of Section 11, could be approved and carried out whether or not such assent should be given. Nevertheless, it may frequently be desirable to submit such plans to the vote of security holders, or at least to those classes of security holders having the major stake in the plan. In this instance we are of the opinion that submission of the plan to security holders should be dispensed with in the interest of economy. Among the considerations which justify dispensing with such vote in this case are the relatively brief extension of the maturity of the bonds, the fact that the plan contemplates liquidation and the exercise of jurisdiction over the assets of the company by a court of equity, and that, under the conditions imposed by our order, the extension of the majority of the bonds is to be without prejudice to the right of any bondholders to be heard by the court as to any issues which may arise during the extension period concerning the program of liquidation by the management, in the event that such action appears necessary in the interest of the bondholders.

CONCLUSION

For the reasons stated, the judgment below should be affirmed.

Respectfully submitted.

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APRIL 1943.

APPENDIX A

The Public Utility Holding Company Act of 1935, c. 687, 49 Stat. 803, 15 U. S. C., sec. 79 *et seq.*, provides in pertinent part as follows:

TITLE I—CONTROL OF PUBLIC-UTILITY HOLDING COMPANIES

NECESSITY FOR CONTROL OF HOLDING COMPANIES

SECTION 1. (a) Public-utility holding companies and their subsidiary companies are affected with a national public interest in that, among other things, (1) their securities are widely marketed and distributed by means of the mails and instrumentalities of interstate commerce and are sold to a large number of investors in different States; (2) their service, sales, construction, and other contracts and arrangements are often made and performed by means of the mails and instrumentalities of interstate commerce; (3) their subsidiary public-utility companies often sell and transport gas and electric energy by the use of means and instrumentalities of interstate commerce; (4) their practices in respect of and control over subsidiary companies often materially affect the interstate commerce in which those companies engage; (5) their activities extending over many States are not susceptible of effective control by any State and make difficult, if not impossible, effective State regulation of public-utility companies.

(b) Upon the basis of facts disclosed by the reports of the Federal Trade Commission made pursuant to S. Res. 83 (Seventieth Congress, first session), the reports of the Committee on Interstate and Foreign Commerce, House of Representatives, made pursuant to H. Res. 59 (Seventy-second Congress, first session) and H. J. Res. 572 (Seventy-second Congress, second session) and otherwise disclosed and ascertained, it is hereby declared that the national public interest, the interest of investors in the securities of holding companies and their subsidiary companies and affiliates, and the interest of consumers of electric energy and natural and manufactured gas, are or may be adversely affected—

(1) when such investors cannot obtain the information necessary to appraise the financial position or earning power of the issuers, because of the absence of uniform standard accounts; when such securities are issued without the approval or consent of the States having jurisdiction over subsidiary public-utility companies; when such securities are issued upon the basis of fictitious or unsound asset values having no fair relation to the sums invested in or the earning capacity of the properties and upon the basis of paper profits from intercompany transactions, or in anticipation of excessive revenues from subsidiary public-utility companies; when such securities are issued by a subsidiary public-utility company under circumstances which subject such company to the burden of supporting an overcapitalized structure and tend to prevent voluntary rate reductions;

(2) when subsidiary public-utility companies are subjected to excessive charges

for services, construction work, equipment, and materials, or enter into transactions in which evils result from an absence of arm's-length bargaining or from restraint of free and independent competition; when service, management, construction, and other contracts involve the allocation of charges among subsidiary public-utility companies in different States so as to present problems of regulation which cannot be dealt with effectively by the States;

(3) when control of subsidiary public-utility companies affects the accounting practices and rate, dividend, and other policies of such companies so as to complicate and obstruct State regulation of such companies, or when control of such companies is exerted through disproportionately small investment;

(4) when the growth and extension of holding companies bears no relation to economy of management and operation or the integration and coordination of related operating properties; or

(5) when in any other respect there is lack of economy of management and operation of public-utility companies or lack of efficiency and adequacy of service rendered by such companies, or lack of effective public regulation, or lack of economies in the raising of capital.

(c) When abuses of the character above enumerated become persistent and widespread the holding company becomes an agency which, unless regulated, is injurious to investors, consumers, and the general public; and it is hereby declared to be the policy of this title, in accordance with which policy all the provisions of this title shall be interpreted, to meet the problems and eliminate the evils as enumerated in

this section, connected with public-utility holding companies which are engaged in interstate commerce or in activities which directly affect or burden interstate commerce; and for the purpose of effectuating such policy to compel the simplification of public-utility holding-company systems and the elimination therefrom of properties detrimental to the proper functioning of such systems, and to provide as soon as practicable for the elimination of public-utility holding companies except as otherwise expressly provided in this title.

DEFINITIONS

SEC. 2. (a) When used in this title, unless the context otherwise requires—

* * * * *

(7) "Holding company" means—

(A) any company which directly or indirectly owns, controls, or holds with power to vote, 10 per centum or more of the outstanding voting securities of a public-utility company or of a company which is a holding company by virtue of this clause or clause (B), unless the Commission, as hereinafter provided, by order declares such company not to be a holding company; and

(B) any person which the Commission determines, after notice and opportunity for hearing, directly or indirectly to exercise (either alone or pursuant to an arrangement or understanding with one or more other persons) such a controlling influence over the management or policies of any public-utility or holding company as to make it necessary or appropriate in the public interest or for the protection of investors or consumers that such person be subject to the obligations, duties, and lia-

bilities imposed in this title upon holding companies.

The Commission, upon application, shall by order declare that a company is not a holding company under clause (A) if the Commission finds that the applicant (i) does not, either alone or pursuant to an arrangement or understanding with one or more other persons, directly or indirectly control a public-utility or holding company either through one or more intermediary persons or by any means or device whatsoever, (ii) is not an intermediary company through which such control is exercised, and (iii) does not, directly or indirectly, exercise (either alone or pursuant to an arrangement or understanding with one or more other persons) such a controlling influence over the management or policies of any public-utility or holding company as to make it necessary or appropriate in the public interest or for the protection of investors or consumers that the applicant be subject to the obligations, duties, and liabilities imposed in this title upon holding companies. The filing of an application hereunder in good faith by a company other than a registered holding company shall exempt the applicant from any obligation, duty, or liability imposed in this title upon the applicant as a holding company, until the Commission has acted upon such application. Within a reasonable time after the receipt of any application hereunder, the Commission shall enter an order granting, or, after notice and opportunity for hearing, denying or otherwise disposing of, such application. As a condition to the entry of any order granting such application and as a part of

any such order, the Commission may require the applicant to apply periodically for a renewal of such order and to do or refrain from doing such acts or things, in respect of exercise of voting rights, control over proxies, designation of officers and directors, existence of interlocking officers, directors and other relationships, and submission of periodic or special reports regarding affiliations or intercorporate relationships of the applicant, as the Commission may find necessary or appropriate to ensure that in the case of the applicant the conditions specified in clauses (i), (ii), and (iii) are satisfied during the period for which such order is effective. The Commission, upon its own motion or upon application of the company affected, shall revoke the order declaring such company not to be a holding company whenever in its judgment any condition specified in clause (i), (ii), or (iii) is not satisfied in the case of such company, or modify the terms of such order whenever in its judgment such modification is necessary to ensure that in the case of such company the conditions specified in clauses (i), (ii), and (iii) are satisfied during the period for which such order is effective. Any action of the Commission under the preceding sentence shall be by order.

* * * * *

POWER TO MAKE PARTICULAR EXEMPTIONS REGARDING HOLDING COMPANIES, SUBSIDIARY COMPANIES, AND AFFILIATES

SEC. 3. (a) The Commission, by rules and regulations upon its own motion, or by order upon application, shall exempt any holding company, and every subsidiary

company thereof as such, from any provision or provisions of this title, unless and except insofar as it finds the exemption detrimental to the public interest or the interest of investors or consumers, if—

(1) such holding company, and every subsidiary company thereof which is a public-utility company from which such holding company derives, directly or indirectly, any material part of its income, are predominantly intrastate in character and carry on their business substantially in a single State in which such holding company and every such subsidiary company thereof are organized;

(2) such holding company is predominantly a public-utility company whose operations as such do not extend beyond the State in which it is organized and States contiguous thereto;

(3) such holding company is only incidentally a holding company, being primarily engaged or interested in one or more businesses other than the business of a public-utility company and (A) not deriving, directly or indirectly, any material part of its income from any one or more subsidiary companies, the principal business of which is that of a public-utility company, or (B) deriving a material part of its income from any one or more such subsidiary companies, if substantially all the outstanding securities of such companies are owned, directly or indirectly, by such holding company;

(4) such holding company is temporarily a holding company solely by reason of the acquisition of securities for purposes of liquidation or distribution in connection with a bona fide debt previously contracted

or in connection with a bona fide arrangement for the underwriting or distribution of securities; or

(5) such holding company is not, and derives no material part of its income, directly or indirectly, from any one or more subsidiary companies which are, a company or companies the principal business of which within the United States is that of a public-utility company.

(b) The Commission, by rules and regulations upon its own motion, or by order upon application, shall exempt any subsidiary company, as such, of a holding company from any provision or provisions of this title, the application of which to such subsidiary company the Commission finds is not necessary in the public interest or for the protection of investors, if such subsidiary company derives no material part of its income, directly or indirectly, from sources within the United States, and neither it nor any of its subsidiary companies is a public-utility company operating in the United States.

(c) Within a reasonable time after the receipt of an application for exemption under subsection (a) or (b), the Commission shall enter an order granting, or, after notice and opportunity for hearing, denying or otherwise disposing of such application. The filing of an application in good faith under subsection (a) by a person other than a registered holding company shall exempt the applicant from any obligation, duty, or liability imposed in this title upon the applicant as a holding company until the Commission has acted upon such application. The filing of an application in good faith under sub-

section (b) shall exempt the applicant from any obligation, duty, or liability imposed in this title upon the applicant as a subsidiary company until the Commission has acted upon such application. Whenever the Commission, on its own motion, or upon application by the holding company or any subsidiary company thereof exempted by any order issued under subsection (a), or by the subsidiary company exempted by any order issued under subsection (b), finds that the circumstances which gave rise to the issuance of such order no longer exist, the Commission shall by order revoke such order.

(d) The Commission may, by rules and regulations, conditionally or unconditionally exempt any specified class or classes of persons from the obligations, duties, or liabilities imposed upon such persons as subsidiary companies or affiliates under any provision or provisions of this title, and may provide within the extent of any such exemption that such specified class or classes of persons shall not be deemed subsidiary companies or affiliates within the meaning of any such provision or provisions, if and to the extent that it deems the exemption necessary or appropriate in the public interest or for the protection of investors or consumers and not contrary to the purposes of this title.

TRANSACTIONS BY UNREGISTERED HOLDING COMPANIES

SEC. 4. (a) After December 1, 1935, unless a holding company is registered under section 5, it shall be unlawful for such holding company, directly or indirectly—

(1) to sell, transport, transmit, or dis-

tribute, or own or operate any utility assets for the transportation, transmission, or distribution of natural or manufactured gas or electric energy in interstate commerce;

(2) by use of the mails or any means or instrumentality of interstate commerce, to negotiate, enter into, or take any step in the performance of, any service, sales, or construction contract undertaking to perform services or construction work for, or sell goods to, any public-utility company or holding company;

(3) to distribute or make any public offering for sale or exchange of any security of such holding company, any subsidiary company or affiliate of such holding company, any public-utility company, or any holding company, by use of the mails or any means or instrumentality of interstate commerce, or to sell any such security having reason to believe that such security, by use of the mails or any means or instrumentality of interstate commerce, will be distributed or made the subject of a public offering;

(4) by use of the mails or any means or instrumentality of interstate commerce, to acquire or negotiate for the acquisition of any security or utility assets of any subsidiary company or affiliate of such holding company, any public-utility company, or any holding company;

(5) to engage in any business in interstate commerce; or

(6) to own, control, or hold with power to vote, any security of any subsidiary company thereof that does any of the acts enumerated in paragraphs (1) to (5), inclusive, of this subsection.

(b) Every holding company which has outstanding any security any of which, by use of the mails or any means or instrumentality of interstate commerce, has been distributed or made the subject of a public offering subsequent to January 1, 1925, and any of which security is owned or held on October 1, 1935 (or, if such company is not a holding company on that date, on the date such company becomes a holding company) by persons not resident in the State in which such holding company is organized, shall register under section 5 on or before December 1, 1935 or the thirtieth day after such company becomes a holding company, whichever date is later.

* * * * *

SEC. 11.

* * * * *

(b) It shall be the duty of the Commission, as soon as practicable after January 1, 1938:

(1) To require by order, after notice and opportunity for hearing, that each registered holding company, and each subsidiary company thereof, shall take such action as the Commission shall find necessary to limit the operations of the holding-company system of which such company is a part to a single integrated public-utility system, and to such other businesses as are reasonably incidental, or economically necessary or appropriate to the operations of such integrated public-utility system: *Provided, however,* That the Commission shall permit a registered holding company to continue to control one or more additional integrated public-utility systems, if, after notice and opportunity for hearing, it finds that—

(A) Each of such additional systems cannot be operated as an independent system without the loss of substantial economies which can be secured by the retention of control by such holding company of such system;

(B) All of such additional systems are located in one State, or in adjoining States, or in a contiguous foreign country; and

(C) The continued combination of such systems under the control of such holding company is not so large (considering the state of the art and the area or region affected) as to impair the advantages of localized management, efficient operation, or the effectiveness of regulation.

The Commission may permit as reasonably incidental, or economically necessary or appropriate to the operations of one or more integrated public-utility systems the retention of an interest in any business (other than the business of a public-utility company as such) which the Commission shall find necessary or appropriate in the public interest or for the protection of investors or consumers and not detrimental to the proper functioning of such system or systems.

(2) To require by order, after notice and opportunity for hearing, that each registered holding company, and each subsidiary company thereof, shall take such steps as the Commission shall find necessary to ensure that the corporate structure or continued existence of any company in the holding-company system does not unduly or unnecessarily complicate the structure, or unfairly or inequitably distribute voting power among security holders, of such holding-company system.

In carrying out the provisions of this paragraph the Commission shall require each registered holding company (and any company in the same holding-company system with such holding company) to take such action as the Commission shall find necessary in order that such holding company shall cease to be a holding company with respect to each of its subsidiary companies which itself has a subsidiary company which is a holding company. Except for the purpose of fairly and equitably distributing voting power among the security holders of such company, nothing in this paragraph shall authorize the Commission to require any change in the corporate structure or existence of any company which is not a holding company, or of any company whose principal business is that of a public-utility company.

The Commission may by order revoke or modify any order previously made under this subsection, if, after notice and opportunity for hearing, it finds that the conditions upon which the order was predicated do not exist. Any order made under this subsection shall be subject to judicial review as provided in section 24.

APPENDIX B*

Name of system	Approximate consolidated assets Dec. 31, 1941	Location of general headquarters[1]	Number of utility subsidiaries[2]	Number of States where subsidiaries operate	Maximum distance headquarters to subsidiaries[3]	Average distance headquarters to subsidiaries[3]
Electric Bond & Share Co.[4]	$586,071,057	New York area[5]	11	8	800	500
American Gas & Electric Co.	851,251,525	New York area[5]	17	14	3,100	2,000
American Power & Light Co.	749,183,549	New York area[5]	9	10	2,700	1,800
Electric Power & Light Co.	542,078,708	New York area[5]	6	5	1,630	900
National Power & Light						
United Corporation Group[6]	709,099,107	New York area[5]	27	8	825	600
Columbia Gas & Elec. Corp., The	1,168,010,[illegible]	New York area[5]	10	10	1,350	900
Commonwealth & Southern Corp., The	645,325,[illegible]	New York	9	1	300	200
Niagara Hudson Power Corp.	1,446,813,044	Philadelphia	25	9	2,500	250
United Gas Improvement Co., The[7]	484,320,934	New York	14	5	575	400
American Water Works and Electric Co., Inc.	1,043,325,684	New York	64	26	2,500	600
Associated Gas & Electric Corp.	109,380,904	New York area[5]	37	18	1,650	600
Central Public Utility Corp.	1,026,837,666	New York area[5]	33	15	3,200	1,600
Cities Service Co.	386,234,239	New York area[5]	19	15	3,100	1,650
Engineers Public Service Co.	198,168,300	New York area[5]	8	4	1,350	750
Federal Water and Gas Corp.	629,547,543					
International Hydro-Electric System[8]	153,371,919	Dallas	6	3	700	300
Lone Star Gas Corporation	502,371,709	Chicago	26	15	1,300	525
Middle West Corporation, The	294,660,318	Chicago	13	3	300	
Midland United Company	108,649,716	New York area	9	2	400	360
National Fuel Gas	106,587,213	Cambridge, Mass.	18	5	[illegible]125	
New England Gas & Electric Association	207,157,937	Augusta	6	3	250	
New England Public Service Company	1,320,480,301	New York area	21	12	1,400	1,000
North American Company, The						
Northern State Power Co.	267,630,883	Minneapolis	8	3	(9)	(9)
Ogden Corporation	109,765,002	New York	11	7	(9)	(9)
Portland Electric Power Co.	112,570,873	Portland, Oreg.	2	2	200	
Standard Power and Light Corp.	823,842,714	Chicago	26	21	2,300	600
United Light and Power Co., The	572,958,641	Chicago	25	13	1,250	450
Total	15,334,026,827					

[1] Includes Public Service Corporation of New Jersey.

[2] Data at Dec. 6, 1939.

[3] New York area includes New York City, Newark, and Jersey City.

[4] For 17 companies: 18th, 400 miles.

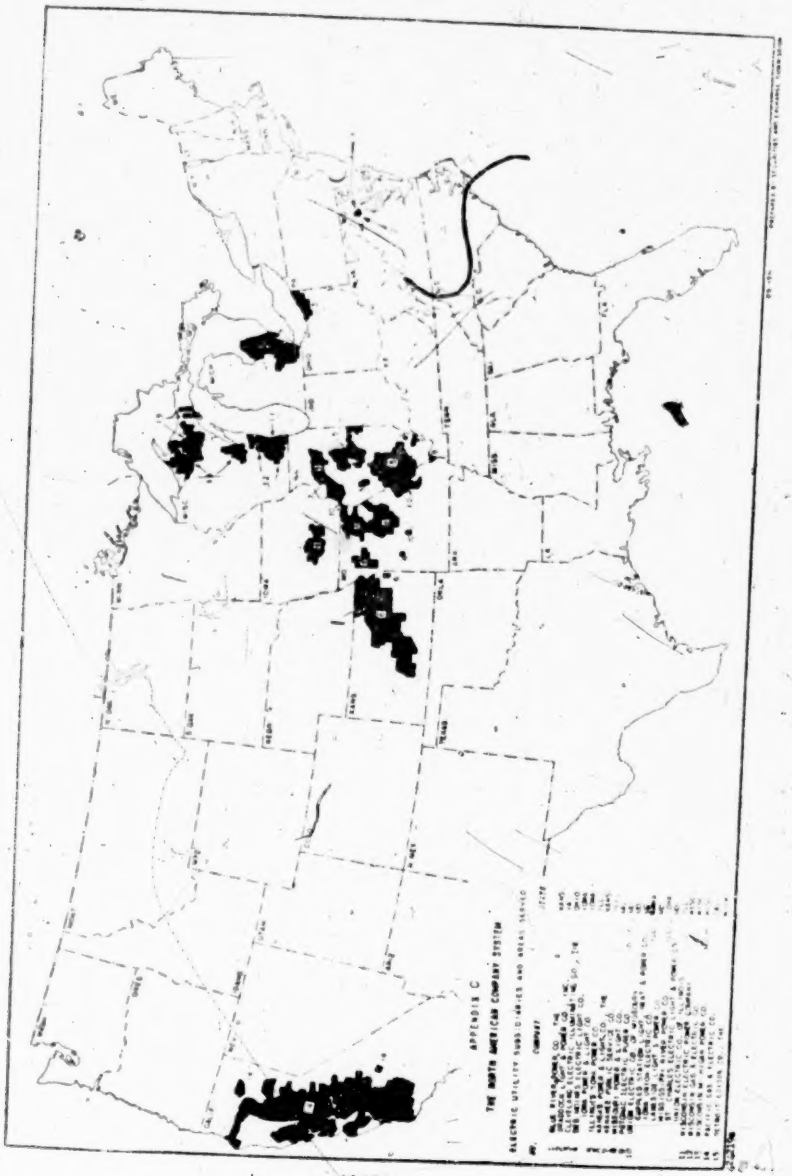
[5] A substantial portion of assets represented by New England Power Association, headquarters in Boston, subsidiaries within a radius of 275 miles. Other important subsidiaries are in New York State and in the Province of Quebec.

[6] Part of Standard Power and Light Corp. Group as of Dec. 6, 1939.

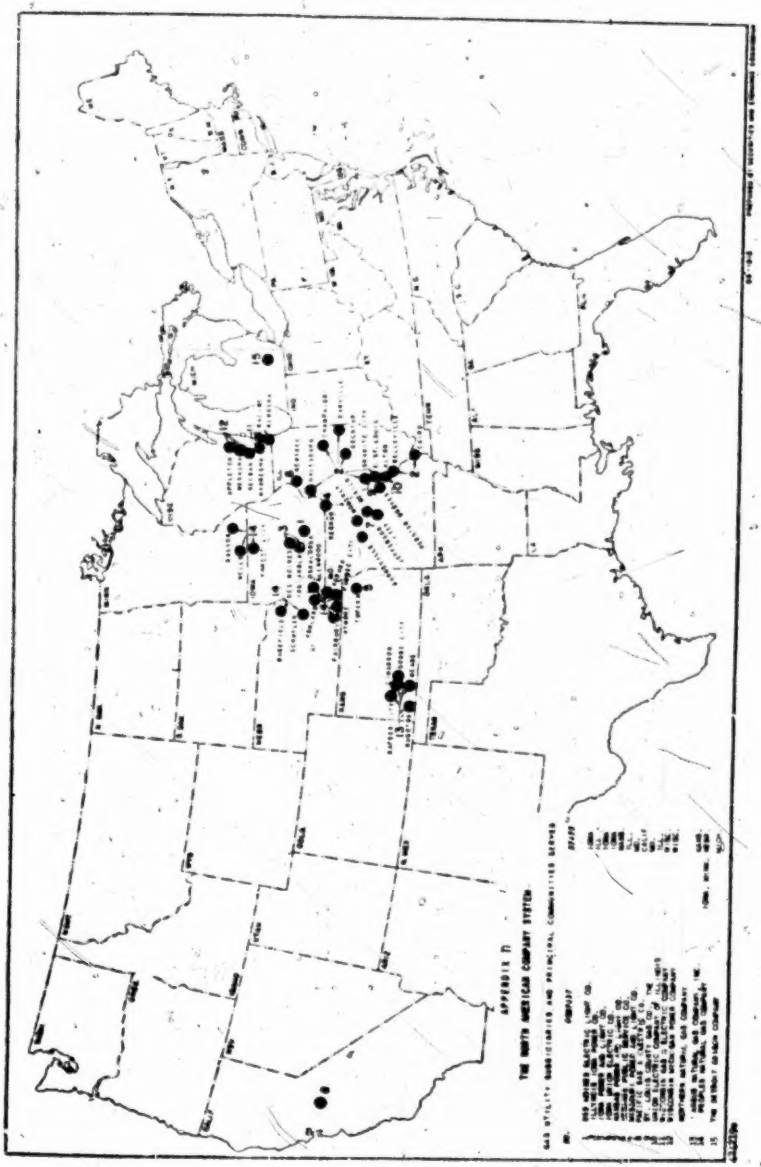
[7] Ogden Corporation under control of reorganization court on Dec. 6, 1939, under former name—Utilities Power and Light Corporation.

* SOURCE: Report of Public Utilities Division, Securities and Exchange Commission, "Charts Showing Location of Operating Electric and/or Gas Subsidiaries of Registered Public Utility Holding Companies, 1939," Dec. 6, 1939; for assets shown in second column, statement filed with the Commission by the holding companies.

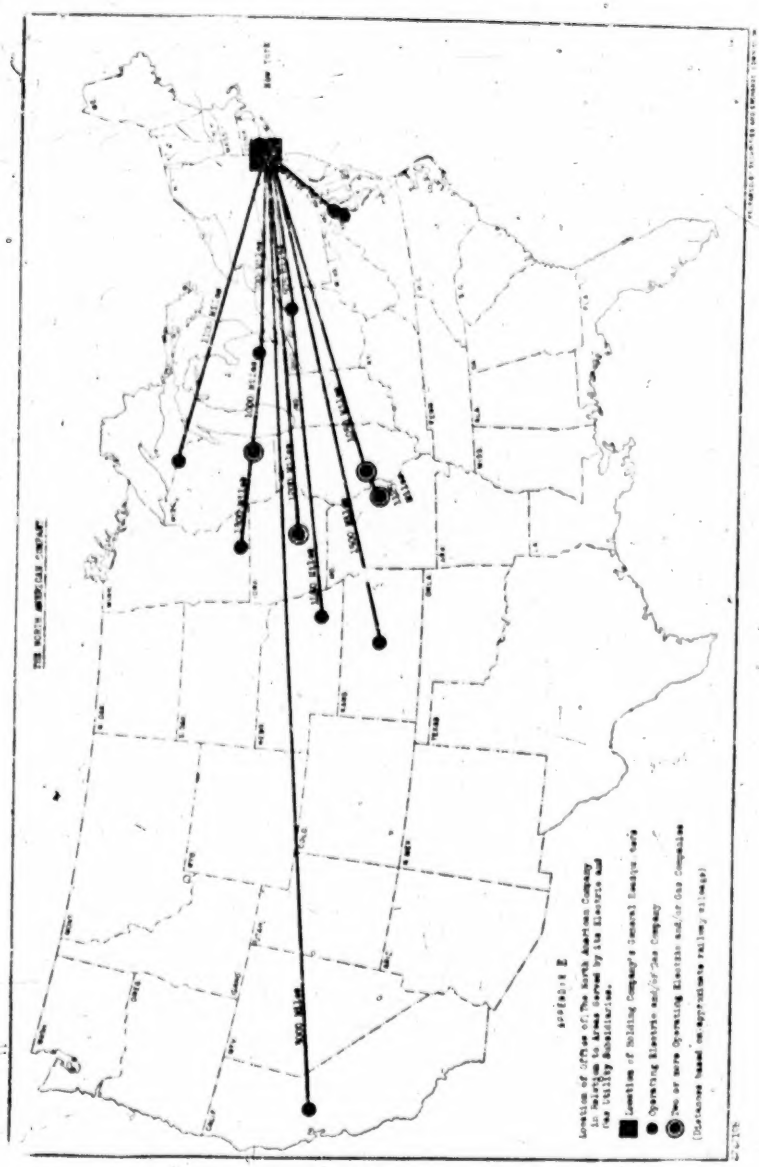
APPENDIX C



APPENDIX D



APPENDIX E



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Supreme Court U.S.
FILED
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CHARLES ELMORE CROPLEY

IN THE

Supreme Court of the United States

OCTOBER TERM, 1942

No. [redacted]

THE NORTH AMERICAN COMPANY,
Petitioner,

v.

SECURITIES AND EXCHANGE COMMISSION,
Respondent.

On Writ of Certiorari to the Circuit Court of Appeals for the Second Circuit.

BRIEF OF ARTHUR A. BALLANTINE AND JOHN P. MACLANE, *AMICI CURIAE.*

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Amici Curiae.

Wilson Lumpkin,
Joseph Solomon,
of Counsel.

March 30, 1943.

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Statutes Cited.

This case directly involves the validity of a provision of the Public Utility Holding Company Act of 1935 (49 Stat. 803-838; 15 U. S. C. Secs. 79-79z). The Act, and various provisions thereof, are referred to throughout the brief.

Opinions Below.

The opinion of the United States Circuit Court of Appeals for the Second Circuit was rendered on January 12, 1943, and is reported at 133 F. (2d) 148. It is also printed in the Record on file in this Court (Vol. X, p. 4000, *et seq.*).

The opinions of the Securities and Exchange Commission, rendered April 14, 1942 and June 25, 1942, have not yet been officially reported. They are printed in the Record on file in this Court (Vol. I, p. 73, *et seq.* and p. 207, *et seq.*). The Commission has distributed these opinions as its Holding Company Act Releases Nos. 3405 and 3629.

IN THE

Supreme Court of the United States

OCTOBER TERM, 1942.

No. 721.

THE NORTH AMERICAN COMPANY,
Petitioner,

v.

SECURITIES AND EXCHANGE COMMISSION,
Respondent.

ON WRIT OF CERTIORARI TO THE CIRCUIT COURT OF APPEALS FOR THE SECOND CIRCUIT.

BRIEF OF ARTHUR A. BALLANTINE AND JOHN F. MacLANE, *AMICI CURIAE*.

Statement.

The undersigned *amici curiae*, members of the Bar of this Court, represent registered public utility holding companies against which proceedings are pending under Section 11(b) of the Public Utility Holding Company Act of 1935 (hereinafter termed the "Act") before the Securities and Exchange Commission (hereinafter termed the "S. E. C.") and before Federal Courts. Counsel for the petitioner herein, The North American Company (a New Jersey corporation, hereinafter termed "North American"), and the S. E. C., the respondent herein, have consented to the filing of this brief.

The orders of the S. E. C. under review were issued under Section 11(b)(1) of the Act and in substance directed North American to divest itself of all of its assets except securities of Union Electric Company of Missouri (with one or two minor exceptions as to which jurisdiction was reserved) and denied North American's petition for rehearing. The assets ordered divested cost $190,000,000.

The companies we represent contend in the proceedings against them, (1) that Section 11(b) (including Section 11(b)(1) and Section 11(b)(2)) is unconstitutional, in that it does not rest, or even purport to rest, on any federal power, such as the power over interstate commerce, and (2) that Section 11(b) (including Section 11(b)(1) and Section 11(b)(2)) is unconstitutional in that it violates the due process clause of the Fifth Amendment. These are the principal issues on the present appeal, and the above-mentioned contentions made in other pending proceedings by the companies we represent will necessarily be affected by the decision in this case.

The Statutory Provisions Involved.

The Act deals with three distinct and separate subjects, viz., (a) registration (Sections 4, 5), (b) regulation (Sections 6, 7, 8, 9, 10, 12, 13, 15), and (c) disintegration and reorganization (Section 11, of which Section 11(b)(1) here involved is a part).

(a) The *registration* provisions, compelling registration of public utility holding companies and the furnishing of detailed information regarding them and their subsidiaries, rest on the power of Congress to obtain such data. *Electric Bond and Share Co.* v. *Securities and Exchange Commission*, 303 U. S. 419, at p. 442 (1938). No attack on the registration provisions of the Act is being made.

(b) The *regulation* provisions governing future activities (*i. e.*, after passage of the Act), such as issuance and sale of securities through use of instrumentalities of interstate commerce or the mails, may rest on the federal power over such commerce. These regulatory provisions seem to cover almost every important activity of companies in holding company systems which could have any connection with interstate commerce. No attack on the regulatory provisions of the Act is involved here.

(c) The *disintegration and reorganization* provision (Section 11), a part of which is here involved (that is, Section 11(b)(1)), makes no reference to any matter on which any federal power rests, and does not provide for regulation of any future activity, but for changes in existing property rights. *Revisions contemplated by Section 11 are not to be ordered because of violations of any law or statutory prohibition or because of the insolvency of any company, but for the sole purpose of creating theoretically ideal corporate and operating structures in the public utilities field.* Section 11(a) provides for studies by the S. E. C. of public utility holding company systems. Section 11(b)(1) provides for divestment by holding company systems of a part of their holdings, so as to accomplish economic integration and to disintegrate presently existing holding company systems. Section 11(b)(2) provides for making changes in corporate structures and the voting rights of security holders.

Section 11(b)(1) involved here reads as follows:

> "It shall be the duty of the Commission [the S. E. C.], as soon as practicable after January 1, 1938:
>
> "(1) To require by order, after notice and opportunity for hearing, that each registered holding company, and each subsidiary company thereof, shall take such action as the Commission shall find neces-

sary to limit the operations of the holding-company system of which such company is a part to a single integrated public-utility system, and to such other businesses as are reasonably incidental, or economically necessary or appropriate to the operations of such integrated public-utility system: *Provided, however,* That the Commission shall permit a registered holding company to continue to control one or more additional integrated public-utility systems, if, after notice and opportunity for hearing, it finds that—

"(A) Each of such additional systems cannot be operated as an independent system without the loss of substantial economies which can be secured by the retention of control by such holding company of such system;

"(B) All of such additional systems are located in one State, or in adjoining States, or in a contiguous foreign country; and

"(C) The continued combination of such systems under the control of such holding company is not so large (considering the state of the art and the area or region affected) as to impair the advantages of localized management, efficient operation, or the effectiveness of regulation.

The Commission may permit as reasonably incidental, or economically necessary or appropriate to the operations of one or more integrated public-utility systems the retention of an interest in any business (other than the business of a public-utility company as such) which the Commission shall find necessary or appropriate in the public interest or for the protection of investors or consumers and not detrimental to the proper functioning of such system or systems."

It will be noted that Section 11(b)(1) relates to *registered* holding companies (meaning holding companies registered under Section 5 of the Act) and to each subsidiary

company thereof. However, the constitutional right to apply Section 11(b)(1) to any company or its system is not determined by *registration* by the company. This was expressly held by this Court in *Electric Bond and Share Co.* v. *Securities and Exchange Commission*, 303 U. S. 419 (1938), *supra*. Under that decision, holding companies were required to register under Section 5 of the Act and to furnish information regarding themselves and their subsidiaries required in connection with such registration. However, the Court expressly said (p. 435) that such "registration will be without prejudice to future challenge of the validity of any provision of the Act, or requirement of the Commission," outside of the registration provisions. This decision shows that (a) the registration, (b) the regulation, and (c) the disintegration and reorganization, functions of the Act are entirely separate from each other.

There is no provision in Section 11, the disintegration and reorganization section, limiting the application of the Section to companies engaged in interstate commerce or which affect interstate commerce, and there is no such provision elsewhere in the Act.

There is no provision in Section 11 or elsewhere in the Act for a condemnation proceeding, or for just compensation to a holding company and its security holders for the loss which will result from the taking of property of the company through an order for divestment of assets.

There is no provision in Section 11 or elsewhere in the Act limiting the application of the Section to companies which are insolvent and therefore subject to the bankruptcy power of the Federal Government and to compulsory reorganization and liquidation.

There is no provision in Section 11 or elsewhere in the Act granting security holders of companies against which

proceedings are instituted under Section 11 the right to a hearing before the S. E. C. or before any Court, and no provision for the vote or consent of such security holders to any so-called reorganization under the Section.

The Decision Below and the Errors Therein.

The decision of the Court below, 133 F. (2d) 148 (C. C. A. 2nd, Jan. 12, 1943), while upholding Section 11(b)(1) as a valid exercise of federal power over interstate commerce, really supports our position that Section 11 has scope beyond any federal power, and is based on a misconception of exemptions contained in Section 3 of the Act, a matter discussed in Point I below.

The Court below also held that the divestment order did not involve a taking of property without due process, on reasoning clearly erroneous, as will be shown hereinafter in Point II.

The Structure Upon Which the S. E. C. Operated.

Here we have in North American a typical public utility holding company, through which thousands of people obtained a diversified investment in the securities of public utility operating companies located in different parts of the country. In this case, these public utility companies were located in Wisconsin, Missouri, Ohio, the District of Columbia, Michigan and California.

The securities of which North American has been ordered to divest itself cost it $190,000,000. There is a value to North American and to its security holders inherent in the assemblage of these securities over and above the value of each of the items taken separately. Through such assemblage, the investors of North American obtained the advan-

tage of diversification of their investment, and the additional advantage of having an experienced management watch and protect the investments in the operating companies. Moreover, North American and these investors obtained the advantage, under the federal income tax laws, of the filing of consolidated income tax returns for these various companies. Also, thousands of investors purchased senior securities of the subsidiary public utility companies, undoubtedly in reliance on the ownership by North American of the common stocks of such subsidiaries and the reputation of North American for experience and success in the public utility field.

North American does no business except to supervise these investments. It is eminently solvent, there has never been a default on any security issued by North American, and it is not claimed that North American has violated any law in acquiring its property.

The above facts are not contested.

Yet by order of a federal administrative agency, this $280,000,000 solvent corporation, lawfully created and existing, is ordered to divest itself of $190,000,000 of securities not acquired in violation of any law at the time in effect, with the consequent taking of a large amount of property belonging to the corporation and its public security holders, without regard to whether the company is in interstate commerce or has any effect on interstate commerce or whether the divestment affects interstate commerce, without any proceeding for condemnation and payment of just compensation, without any hearing whatever for its security holders, and without obtaining their vote or consent. This is done ostensibly for the sole purpose of creating for the general public benefit a theoretically ideal structure in the public utility field.

Summary of Argument.

We submit that there is a fundamental lack of power in the Federal Government to enact this statute applying to companies, irrespective of their being in, or affecting, interstate commerce (Point I); that the taking of the property rights of North American and its stockholders without any proceeding for condemnation and payment of just compensation is a violation of the due process clause of the Fifth Amendment (Point II(1)); that to compel a solvent corporation, which is not subject to the bankruptcy power and has not violated any law, to go through involuntary reorganization or partial liquidation is also a violation of the due process clause (Point II(2)); that the reorganization statute here involved further violates the due process clause in that it does not contain the minimum safeguards for security holders required even for an exercise of the bankruptcy power (Point II(3)); and that, if Section 11(b)(1) is sought to be sustained by alleged abuses (which were not violations of law) occurring prior to its enactment, the Section violates the due process clause as in effect the enforcement of an *ex post facto* law (Point II(4)).

Our position is not that the Federal Government cannot take any action with respect to these corporations. We think that the Federal Government constitutionally may take (a) action to regulate activities properly found to affect interstate commerce, including, on the analogy of the Sherman Anti-Trust Act, the putting together in the future of properties in, or affecting, such commerce, (b) again on the analogy of the Sherman Anti-Trust Act, in case properties were combined in violation of a law (such as the Act) existing at the time the combination was made, action to put asunder the properties so combined in violation of law, and

(c) action to condemn and take, upon payment of just compensation, property rights of corporations and their security holders for a public purpose connected with a federal power (such as interstate commerce), after proper hearings for such corporations and their security holders.

Section 11 here involved does not lie within any of these types of action.

ARGUMENT.

I. Section 11(b)(1) does not rest, or purport to rest, on any federal power, such as the power over interstate commerce, and is therefore unconstitutional.

The discussion under this Point is not on the question whether any particular companies, either the company involved in this case or others, are engaged in activities in interstate commerce or affect interstate commerce so that such activities or such effect may be the subject of federal legislation under an act passed for that purpose. That general question has been the subject of much recent litigation, resulting in decisions holding that many activities, not previously considered as affecting interstate commerce to the required extent, do affect it sufficiently for federal legislation. Those decisions are not in any respect challenged here.

The point we are discussing is the entirely different one, whether Section 11(b)(1) provides for divestment of assets by holding companies in the public utility field, irrespective of whether the companies themselves are in, or affect, interstate commerce, or the divestment affects interstate commerce. It is clear that Section 11(b)(1) does so.

Therefore, Section 11(b)(1) is not an exercise of the federal power over interstate commerce and (since it can-

not even be claimed to rest on any other federal power) Section 11(b)(1) is invalid. To establish a valid connection between a statute and a federal power the statute must not merely be one which could operate on a subject matter of federal power. The statute must be confined to the subject matter of federal power and its scope must not be such as to operate on all situations in a category, when some of them are not within the ambit of federal power.

In *Hill* v. *Wallace*, 259 U. S. 44 (1922), this Court held invalid a purported tax imposed by Congress on sales of grain for future delivery on the ground that the tax was really a penalty to coerce action by boards of trade and their members and was not an exercise of the taxing power. The Court then went on to consider whether the statute could be supported as an exercise of the commerce power. The Court held that, to do so, something had to be found in the Act confining its application to interstate commerce and said (p. 68):

> "There is not a word in the act from which it can be gathered that it is confined in its operation to interstate commerce."

There was no dissent from this decision of the Court, Mr. Justice Brandeis writing a concurring opinion in which he agreed that the Act was unconstitutional.

In *The Employers' Liability Cases*, 207 U. S. 463 (1908), this Court said (p. 504):

> "Concluding, as we do, that the statute, whilst it embraces subjects within the authority of Congress to regulate commerce, also includes subjects not within its constitutional power, and that the two are so interblended in the statute that they are incapable of separation, we are of the opinion that the courts below rightly held the statute to be repugnant to the

> Constitution and non-enforcible; and the judgments below are, therefore, *Affirmed.*"

In that case, the dissenting justices agreed that, if the statute embraced objects beyond federal power, it was unconstitutional, saying (p. 509):

> "Which interpretation, then, should be adopted? That which regards the law as prescribing the liability of the carrier only to those employés who are engaged in the work of interstate and foreign commerce, or that which extends the benefits of the law also to those employés engaged in work which has no relation whatever to such commerce. In answering this question it must not be forgotten that, if the latter interpretation be adopted, *in the opinion of the whole court the act is beyond the constitutional power of Congress.*" (Italics ours.)

In order to sustain a federal statute as constitutional, the connection of the statute with a federal power, if not plain from the nature of the statutory provisions, must be established (a) by a finding of Congress which the Court decides to be proper, or (b) by a finding of an administrative body or officer, authorized and directed by Congress to make the finding in each instance of the exercise of its or his authority, which finding the Court decides to be proper, or (c) by decision of the Court, unassisted by any finding of Congress or of an administrative commission, that the connection appears from the operative provisions of the statute.

In the case of Section 11(b)(1), there is no plain connection with any federal power; and Congress made no finding to connect the subsection with any federal power, the S. E. C. was not directed to make, and did not make, any such finding, and this Court, upon inspection of the

subsection and related provisions of the Act, will see for itself that the operation of this statute is plainly not an exercise of the commerce power or any other federal power and is not in any way limited in its effect to interstate commerce or matters affecting interstate commerce.

It is not the scheme of the Act to bring companies within the application of Section 11(b)(1) by reason of their being in interstate commerce or affecting interstate commerce. On the contrary, it is sought to bring *all* public utility holding companies and their subsidiaries under the application of Section 11(b)(1), irrespective of their being in interstate commerce or affecting interstate commerce and irrespective of whether their subsidiaries are in interstate commerce or affect interstate commerce. The principal method attempted is to forbid to any holding company or any subsidiary thereof the use of the mails and instrumentalities of interstate commerce unless the holding company registers with the S. E. C. and thereby subjects itself and *all* its subsidiaries to the application of Section 11(b)(1) and thus to the exercise of a power which the Federal Government does not have. The power of the Federal Government over the mails and instrumentalities of interstate commerce cannot constitutionally be made a means of exercising powers which the Federal Government does not have over companies which use them. *A fortiori*, the power over such instrumentalities cannot constitutionally be made the means of exercising power over companies which do not even use them, *i. e.*, companies embraced, through the statutory definitions, in the same holding company system with another company which does make some use of the mails or instrumentalities of interstate commerce.

An order under Section 11(b)(1) is not "regulation" either directly or incidentally, nor a penalty for any violation of law. The function of the subsection is not regula-

tory, but is solely to take away existing property rights not acquired through violation of any federal law. Viewing Section 11(b)(1) from the standpoint of its place in the whole Act, it is part of Section 11, which is the disintegration and reorganization provision of the Act. Section 11 has no relationship in function to the regulatory provisions (Sections 6, 7, 8, 9, 10, 12, 13, 15) or the registration provisions (Sections 4, 5) of the Act. Subsection (a) provides for studies of public utility systems by the S. E. C. Subsection (b)(1) provides for divestment by holding companies of holdings in public utility companies so that they will ordinarily be left with only one integrated system. Under subsection (b)(2), steps are to be taken to change corporate structures in the public utility holding company field, so that the structure of a particular holding company system which the S. E. C. finds to be "unduly or unnecessarily complicated" shall no longer be so, and so that voting power which the S. E. C. finds to be "unfairly or inequitably distributed" among security holders of the system shall no longer be so distributed. Thus Section 11(b)(1) provides for the taking of property rights of solvent corporations not acquired by them in violation of any law. Certainly, for Congress to enact such a statute unconnected with any of the federal powers would be unconstitutional. Therefore, for such a statute to be valid, one prerequisite is that the statute be applicable only to situations which fall within one of the federal powers, such as the power over interstate commerce. Section 11(b)(1) is not so limited and is therefore outside the scope of federal power.

We will now discuss (1) the decision of the Circuit of Appeals for the Second Circuit in this case. We will then discuss (2) the provisions of Section 11(b)(1), and of related sections, to show that the federal power over

interstate commerce is not used to bring companies under Section 11(b)(1), and (3) the impossibility of sustaining Section 11(b)(1) as a regulation of the use of the mails or instrumentalities of interstate commerce.

1. The decision below supports our position as to the scope of Section 11, but erroneously upholds Section 11(b)(1) on a misconception of the exemptions in Section 3(a).

North American argued below that Section 11(b)(1) did not rest on any federal power, such as the power over interstate commerce. The Circuit Court of Appeals in effect conceded that Section 11(b)(1) was drawn so as to include companies not in, or affecting, interstate commerce and subject to the federal power over interstate commerce, for the Court upheld Section 11(b)(1) on the ground that (133 F. (2d), at p. 153) "Section 3 provides administrative procedure by which a holding company can obtain exemption from any provision of the Act, if it and its subsidiaries are predominantly intrastate in character," and that North American had not availed itself of this opportunity for exclusion from the operation of Section 11(b)(1).

Thus the Court held, in effect, that the provisions of Section 3 afforded exemption to a company not in, and not affecting, interstate commerce. This is clearly incorrect and therefore the decision below cannot be supported.

Section 3 does not give exemption to any company on the ground that it is not in, or does not affect, interstate commerce. The test of exemption is quite different and has no relation to any federal power. The Court below, in a footnote to the statement just quoted, refers to subdivisions 1 and 2 of subsection (a) of Section 3.

The introductory clauses of subsection (a), preceding subdivisions 1 and 2 and all other subdivisions, contain a

condition precedent to exemption under any of the subdivisions, which has no relation whatsoever to interstate commerce or any other federal power. That condition precedent is that the S. E. C. shall not find "the exemption detrimental to the public interest or the interest of investors or consumers." It must be reiterated that this is a condition, irrespective of whether the company seeking exemption is in interstate commerce or affects interstate commerce. The existence of this particular condition is alone enough to destroy the reasoning of the Court below based on Section 3(a).

But subdivision 1 of Section 3(a) contains a further condition having no relation to interstate commerce or any other federal power. The holding company which is seeking exemption, and *every* public utility subsidiary company thereof from which it gets income must carry on business "substantially in a single State *in which such holding company and every such subsidiary company thereof are organized.*" These companies might all be doing an intrastate business solely; but the mere fact of organization of one of them or its doing business in a state different from the state in which another is organized and is doing business destroys the chance of exemption, notwithstanding that each corporation is doing a purely intrastate business.

The other subdivision of Section 3(a) referred to by the Court below, subdivision (2), is not available to an ordinary holding company, but only to a holding company which is predominantly a public utility operating company.

Therefore the two subdivisions to which the Court below drew attention as upholding its reasoning not only do not do so, but support our contention here.

Accordingly, the decision below is founded on a clear mistake as to the exemptions in Section 3(a), and gives

little aid to this Court in determining whether any part of Section 11 rests on any federal power. If anything, it is a holding that, except for any bearing the misconstrued exemption may have, Section 11 is not confined to any subject matter of federal power.

2. Through the operation of related sections of the Act, Section 11(b)(1) applies to companies whether or not they are in interstate commerce or affect interstate commerce in any degree, or even use the mails or instrumentalities of interstate commerce.

Take a dozen public utility operating companies having no connection with each other, 10% of the voting shares of each of which are owned by another company doing nothing but owning and voting such shares. *We will show that each of these companies is fully subject to Section 11(b)(1) by reason of artificial provisions in the Act, irrespective of whether the company owning such shares is in interstate commerce or affects interstate commerce or even uses the mails or any instrumentality of interstate commerce, and irrespective of whether any of the other companies engage in or affect interstate commerce.*

It is therefore clear that this federal statute was drawn with a broad application unconnected with interstate commerce or any other federal power. The basis on which the draftsmen obviously hoped that so broad a statute might be sustained was that registration (which subjects companies to Section 11(b)(1) by statutory definition), although compelled as a practical matter by the devices in the Act, would be regarded by the Courts as at least *theoretically* optional (the option being to go out of business) so that the Courts would accept registration as submission and not review the compulsion exerted. However, after passage of the Act and before *Electric Bond and Share Co.*

v. *Securities and Exchange Commission*, 303 U. S. 419 (1938), was decided by this Court, this theory was abandoned by the S. E. C. and the Government attorneys representing it, for the reason that they wished to argue that the registration provisions were separable from the remainder of the Act. (It seems to us that this position as to the separability of the registration provisions could only have been adopted because of recognition of the vulnerability of Section 11 to attack in respect of its constitutionality.) In that case this Court held that registration was not voluntary and that, notwithstanding registration, companies could contest the validity of other provisions of the Act, including Section 11(b)(1). Stripped of the artificial theory that registration was voluntary, Section 11(b)(1), to be valid, must be found to rest on some federal power. However, study of the Act shows that the subsection does not rest on any such power.

The relevant sections of the Act which will now be examined are (a) Section 11(b)(1), and sections tied to it by cross-reference, (b) Section 1, containing the declaration of policy by Congress, and (c) Sections 4 and 5, the registration sections of the Act, which make Section 11(b)(1) applicable to a company.

(a) Section 11(b)(1), and cross-referenced sections.

Nowhere in Section 11(b)(1) or in the whole of Section 11 is there any reference to any matter on which any federal power found in the Constitution rests. Consequently, on the face of the subsection there is no indication that its application is based on any federal power.

Section 11(b)(1) becomes applicable to a company solely through inclusion of a company by definition in the terms used in Section 11(b)(1). The subsection is applicable to "each registered holding company, and each subsid-

iary company thereof." An examination of the definitions of such terms which are all contained in Section 2 of the Act shows that they bring companies under Section 11(b)(1) irrespective of whether the companies are in, or affect, interstate commerce, and irrespective of any other matter of federal power.* For companies to be brought under Section 11(b)(1) through these definitions there need only be a public utility operating company, 10% of the stock of which is held by another company, which has registered under the Act. There is no mention of interstate commerce.

Not only is there no *inclusion* of companies in the definitions, based on such companies being in, or affecting, interstate commerce, but the *exemptions* provided in these definitions are not such as would permit any company otherwise included in any definition to obtain exclusion from the definition, and therefore from the application of Section 11(b)(1), based on its not being in, or affecting, interstate commerce.**

Nor does the definition in Section 2(a)(29)(A) of an

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* A "holding company" (Section 2(a)(7)(A)) is any company which directly or indirectly owns, controls, or holds with power to vote, 10% or more of the outstanding voting securities of a public utility company or of a company which is itself a holding company. A "public-utility company" is an electric (or gas) utility company (Section 2(a)(5)). An "electric (or gas) utility company" is a company which owns or operates facilities for the generation or transmission of electric energy for sale (or for the retail distribution of gas) (Section 2(a)(3) and (4)). A "registered holding company" is any company which is registered under Section 5 (Section 2(a)(12)). A "subsidiary company thereof" is a company, 10% of the voting securities of which are owned by such registered holding company or a subsidiary thereof (Section 2(a)(8)(A)). In these definitions, there is no reference to interstate commerce or any other matter of federal power.

** Sections 2(a)(3), 2(a)(4), 2(a)(7) and 2(a)(8). Even an electric utility company operating within a single state cannot obtain exemption unless other conditions having no relation to interstate commerce or any effect thereon are present (Section 2(a)(3)(B)).

"integrated public-utility system", to which a holding company system is, generally, required to be reduced under Section 11(b)(1), limit the application of Section 11(b)(1) to matters affecting interstate commerce.*

(b) Section 1, containing the declaration of policy by Congress.

Nowhere in Section 1 of the Act, which declares the policy of Congress, is there any finding that all holding companies and their subsidiary public utility operating companies, whether registered or not, are in, or affect, interstate commerce.

On the contrary, the only statements are that holding companies of public utility operating companies "often" affect interstate commerce and that their subsidiary public utility companies "often" sell and transport gas and electricity through instrumentalities of interstate commerce (subsection (a)).

Clauses (1) to (3) of subsection (a) refer to activities which are "often" or "widely" carried on by public utility holding companies and their subsidiaries by means of the mails or instrumentalities of commerce such as sale of secu-

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* The definition of "integrated public-utility system" (Section 2(a)(29)(A)), relating to electric utility companies, reads as follows:

> "As applied to electric utility companies, a system consisting of one or more units of generating plants and/or transmission lines and/or distributing facilities, whose utility assets, whether owned by one or more electric utility companies, are physically interconnected or capable of physical interconnection and which under normal conditions may be economically operated as a single interconnected and coordinated system confined in its operations to a single area or region, in one or more States, not so large as to impair (considering the state of the art and the area or region affected) the advantages of localized management, efficient operation, and the effectiveness of regulation;"

rities, performance of service contracts or sale and transport of gas and electricity. But this does not tie Section 11(b)(1) to any federal power over interstate commerce, because Congress did not direct the S. E. C., in applying Section 11(b)(1), to limit its application to activities carried on by means of the mails or instrumentalities of interstate commerce, or to companies engaged in, or affecting, interstate commerce, or even to companies using such instrumentalities. Furthermore, Section 11(b)(1), with which we are solely concerned here, does not purport to be a regulation of any of the matters referred to in clauses (1) to (3). Section 11(b)(1) relates solely to economic integration. The three activities mentioned in clauses (1) to (3) of Section 1(a) are directly regulated by other sections of the Public Utility Act of 1935,* namely, sale of securities by Title I, Sections 6 and 7, service contracts by Title I, Section 13, and sale and transport of electricity by the Federal Power Commission under Title II. (In addition, the Federal Power Commission regulates the sale and transport of natural gas under the Natural Gas Act.) Obviously the recitals of these three clauses of Section 1(a) are intended, and can be taken, as support only for the regulatory provisions just mentioned and not for Section 11(b)(1).

Clause (4) of Section 1(a) states that the practices of public utility holding companies and their subsidiaries "in respect of and control over subsidiary companies *often* materially affect the interstate commerce in which those companies engage." This clause does not tie Section 11(b)(1) to any federal power over interstate commerce

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* Title I of the Public Utility Act of 1935 is the Public Utility Holding Company Act of 1935, and Title II consists, in part, of the Federal Power Act.

for the same reason the preceding clauses (1) to (3) do not. Section 11(b)(1) is applied to each company in a registered holding company system whether or not the control of the company materially affects interstate commerce, and there is no requirement that the S. E. C. find that a company to which it applies Section 11(b)(1) does materially affect interstate commerce, or that the company or any subsidiary thereof is engaged in interstate commerce.

The final clause (5) of Section 1(a) has no reference to interstate commerce or any federal power. It states in substance that the activities of public utility holding companies and their subsidiaries extend over many states and that state control over public utility companies has not been effective. But it has never been held that the fact that activities took place in more than one state gave rise to any federal power over such activities, if they did not constitute interstate commerce or did not have a substantial economic effect on interstate commerce. It is also certain that the mere holding by individuals resident in one state or by a corporation, incorporated under the laws of that state, of stock in a corporation or corporations organized under the laws of another state or states does not give rise to any federal power. Nor has it ever been held that alleged ineffectiveness or laxity of state control *per se* is a source of federal power to supplement that control. Otherwise, whenever the Federal Government considered that state control of any matter, however local, was ineffective or inefficient, it could undertake regulation thereof. Consequently, this clause (5) does not in any way tie the application of Section 11(b)(1) to any federal power.

Since the declaration in subsection (a) is no more than a statement that public utility holding companies and their subsidiaries "often" engage in interstate commerce or

"often" affect interstate commerce and that such activities of public utility holding companies and their subsidiaries as extend over more than one state are not susceptible of effective state control, one would expect the Act to provide that the S. E. C. should find that the particular companies to which it applies Section 11(b)(1) are actually engaged in, or do affect, interstate commerce. There is, however, no such provision in the Act. No generalization of this kind can be made the basis for S. E. C. power, granted by Section 11(b)(1), to compel a holding company or any of its subsidiaries to divest itself of valuable assets, irrespective of whether the particular companies involved themselves engage in interstate commerce or affect interstate commerce or whether the divestment affects interstate commerce.

If subsection (a) of Section 1 represented a proper foundation for Section 11(b)(1), it would follow that Congress could pass a statute saying that it finds that corporations in general "often" engage in interstate commerce and "often" extend their activities into more than one state, that abuses have arisen in connection with corporations in general, and that, therefore *all* corporations may be compelled to divest themselves of the bulk of their assets. Similarly, it would follow that Congress could enact a statute reciting that it finds that persons engaged in business, whether corporations or partnerships or individuals, "often" use the mails and other instrumentalities of commerce, that abuses have arisen in connection with business operations as shown by bankruptcy proceedings, Federal Trade Commission proceedings, mail fraud proceedings and Congressional investigations, and that Congress had therefore determined, for the purpose of preventing further occurrence of the alleged abuses, to reduce the size of

corporations and other business units to some limited amount. Certainly, no one will claim that Congressional power extends so far. As a minimum requirement (even apart from the protection afforded by the due process clause), such statute would have to have a provision directing the administrative body in charge to find that the subject companies or persons are in, or affect, interstate commerce or that the changes which are required affect interstate commerce.

The statement in subsection (c)* that it is the policy of the Act to meet the problems and eliminate the evils, as enumerated in Section 1, connected with those public utility holding companies "*which are engaged in interstate commerce or in activities which directly affect or burden interstate commerce*" is a clear recognition by Congress that the Act must rest on a matter of federal power, to wit, the power over interstate commerce, and that the operative provisions of the Act, to be valid, must be limited in their application to companies engaged in interstate commerce or in activities which directly affect or burden interstate commerce. But Section 11(b)(1) and related sections contain no such limitation. Nor, as previously stated, is the S. E. C. required by the Act to make any finding in that regard.

There are references in subsections (a) and (b) of Section 1 to the "national public interest". But no one has yet claimed successfully in any Court that the "national public interest" as such and alone and unrelated to any enumerated federal power gives rise to any federal power, except possibly in connection with spending under the gen-

* Subsections (a) and (c) are the only subsections of Section 1 which contain any reference to any matter of federal power. Subsection (b) of Section 1 contains no reference whatever to any matter of federal power but consists only of a list of alleged abuses by public utility holding companies.

eral welfare clause of the taxing powers in the Constitution.*

Accordingly, Section 1 of the Act simply contains no finding or declaration tying the application of Section 11(b)(1) to any federal power.

(c) The registration provisions of the Act, Sections 4 and 5.

As already stated, the draftsmen of the Act obviously realized the existence of the gap between the recitals of Section 1 and the provisions of Section 11(b)(1), which are not limited in their application to matters involving interstate commerce in any manner, and relied, for bridging the gap, on the artificial device of making registration in form voluntary although, as a practical matter, it was compulsory. After passage of the Act, the S. E. C. and the Government attorneys representing it decided not to rely on this device, and this Court in the registration case already referred to, *Electric Bond and Share Co.* v. *Securities and Exchange Commission*, 303 U. S. 419 (1938), held that a company, notwithstanding its registration, could raise the question of the validity of sections of the Act other than the registration provisions.

As the Act is drawn, holding companies become subject in terms to Section 11(b)(1) through registration, since Section 11(b)(1) applies to each "registered holding company." To make it impossible for the holding companies

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* As the Supreme Court said in *U. S.* v. *Butler*, 297 U. S. 1 (1936), at page 74:

> "It does not help to declare that local conditions throughout the nation have created a situation of national concern; for this is but to say that whenever there is a widespread similarity of local conditions, Congress may ignore constitutional limitations upon its own powers and usurp those reserved to the states."

The dissenting opinion in that case, although disagreeing with the decision in the case, did not disagree with this proposition.

not to register under Section 5, provisions were inserted in Section 4(a) which would prevent the holding companies from carrying on business at all without registering, irrespective of the connection of the holding companies with interstate commerce. But, under this Court's decision, the various sections of the Act are separable, and a holding company, finding it impossible to carry on because of the provisions of Section 4(a) without registering under Section 5 (or being compelled to register under Section 5 through the provisions of Section 4(b) which is a "catch-all" clause later herein to be discussed), can register and, notwithstanding such registration, still contest the validity or application of any other sections of the Act. This Court said (303 U. S., at p. 443): "All their rights and remedies with respect to other provisions of the statute remain without prejudice."

Is there, nevertheless, such a necessary chain of connection between the provisions of Section 4 forcing registration and some source of federal power that Section 11(b)(1), when applied to holding companies forced to register by Section 4, is confined to a matter on which the Federal Government has power to legislate? There is no such connection.

Section 5 merely contains the mechanics of registration, and there is no designation or classification therein of the companies required to register. That is contained in Section 4, which has two subsections, (a) and (b).

Analysis of Section 4(a) shows clearly that it requires registration by holding companies irrespective of their being in, or affecting, interstate commerce and thereby subjects to Section 11(b)(1) not only such holding companies but each of their subsidiaries irrespective of whether either the holding company or the subsidiary is in, or affects, inter-

state commerce, or even uses the instrumentalities of interstate commerce at all.

The key to the broad scope of Section 4(a) is clause (6) which, taken together with the introductory clause of Section 4(a), requires a holding company to register (thereby making *that holding company and all* its subsidiaries subject to the application of Section 11(b)(1)) if *any* company in which the holding company holds 10% of the voting shares uses an instrumentality of interstate commerce or the mails incidentally even to a single isolated transaction of various types, for example, to enter into or take any step in the performance of any advisory service contract, or to sell goods to any public utility or holding company (whether or not the buyer is in interstate commerce) (clause (2)), or to sell a utility security to the public or an underwriter (clause (3)), or to purchase any utility security or assets from anyone (clause (4)). Consequently, if there are a dozen public utility operating companies, 10% of the stock of each of which is owned by a holding company, and *one* of the operating companies uses an instrumentality of interstate commerce to take *any* step in the performance of a sale of goods to any public utility company, the holding company must register and *it and all* its subsidiaries are subject to the application of Section 11(b)(1). Under the remaining clauses, (1) and (5), if a holding company wishes to engage directly in transmission of electricity or gas in interstate commerce, or in any kind of business in interstate commerce, it must register, but this is only one of the myriad ways in which a company is brought under Section 11(b)(1) through the operation of Section 4(a). Even in the case of clause (5), the effect of registration of the holding company, because of a desire itself to engage in some kind of business in interstate com-

merce, is to subject *all* its subsidiaries to the application of Section 11(b)(1), irrespective of their engaging in, or affecting, interstate commerce, or even of their using any instrumentality of interstate commerce.

There is another aspect of these clauses of Section 4(a) aside from their subjecting to Section 11(b)(1), by indirection, companies not connected with interstate commerce, or with the use of any instrumentality of interstate commerce, which also shows that Section 11(b)(1) does not rest on the federal power over commerce. Section 4(a) requires registration as a condition of using, for the purpose of an *isolated* transaction, instrumentalities over which the Federal Government may exercise control. But the result of such registration is to subject companies to the application of Section 11(b)(1) *forever after*, notwithstanding completion of such isolated transaction and irrespective of whether they are engaged in, or affect, interstate commerce, or thereafter use any instrumentality of interstate commerce.

While *some* (not all) of the causes of registration may have to do with use by one company of an instrumentality of commerce (or the mails) in the first instance, Section 11(b)(1), because of registration of a holding company, applies to other companies (which are subsidiaries of the holding company by statutory definition) irrespective of the use by such other companies of any instrumentality of commerce (or the mails) and application of the subsection continues although the particular use by the first company which caused registration has stopped (*e. g.*, sale of a block of utility securities held in its portfolio). There is no connection whatever between a company engaging in the isolated transactions described in Section 4(a) which at one time may have compelled registration by a company holding 10% of its stock, and the *subsequent* impact of Section

11(b)(1) on the first company or the holding company or *another* so-called subsidiary of that holding company, since the subsection remains effective notwithstanding that the transactions which compelled the registration have wholly ceased. It is no answer to this to argue that, if a company ceases to engage in such transactions or is not in, or does not affect, interstate commerce, it may apply to the S. E. C. to terminate its registration under Section 5. There is no provision for doing so in the Act. The only ground for terminating registration is contained in subsection (d) of Section 5, namely, that a registered holding company has ceased to hold as much as 10% of the voting stock of each of the companies in which it formerly held 10% or more of the voting stock and has thereby ceased to be a holding company.*

The conclusion is unavoidable that when there is included in the field of action of Section 11(b)(1), through the operation of Section 4(a), each holding company and each of its subsidiary companies, whether or not such company is in, or affects, interstate commerce, or uses any

* The S. E. C. does not even let out from under the Act through Section 5(d) companies which have for all practical purposes ceased to be holding companies. For instance, in *In the Matter of North American Gas and Electric Company* [which is in no way connected with the petitioner herein] Holding Company Act Release No. 4092, February 5, 1943, the S. E. C. denied an application of a company under Section 5(d) when its only reason for being a holding company was its ownership of the worthless common stock of a bankrupt public utility company. The application was accompanied by another application for permission to surrender this worthless common stock to the trustees in bankruptcy of the public utility company. The applicant holding company had a number of other assets which were not utilities. The S. E. C. refused to permit the worthless stock to be surrendered on the ground that this would render the Act no longer applicable to the applicant. Having retained jurisdiction through its refusal to permit the applicant to surrender worthless stock of the company in bankruptcy, and in face of the fact that for all practical purposes the applicant was no longer a holding company under the Act, the S. E. C. then decided that, under Section 11(b)(2), it would be a good thing to order the dissolution of the applicant, and proceeded to do so.

instrumentality thereof, Section 11(b)(1) is not a regulation of interstate commerce.*

Nor does the compulsion to register exerted through subsection (b) of Section 4 have any relation to any matter of federal power, except, as in the case of subsection (a), to form a basis for requiring the furnishing of information through registration as an aid to Congress in determining upon legislation on the subject of sales of securities through the mails or instrumentalities of interstate commerce. Subsection (b) requires every holding company to register under Section 5 which has outstanding any security which had been distributed subsequent to January 1, 1925, by use of the mails or any instrumentality of interstate commerce and which was owned or held on October 1, 1935, by persons other than residents of the state of incorporation. Companies within the classification of subsection (b) of Section 4, having sold securities in interstate commerce within 10 years, would reasonably be in a position to furnish information which might be useful to Congress in connection with legislation with respect to such sales in the future. However, the distribution of a security by a company ten years before the passage of the Act by the use of the mails or the instrumentalities of interstate commerce

* This conclusion is reenforced by noting that Section 11(b)(1) does not purport to be a regulation of any companies *in respect of any of the activities* set forth in Section 4(a) which compel the registration, even of those companies which make use of the mails or the instrumentalities of commerce. On the contrary, such activities are specifically the subject of regulation by other sections of the Act and other statutes. The Federal Power Commission, under the Federal Power Act, which is part of Title II of the Public Utility Act of 1935, and under the Natural Gas Act, regulates the distribution of gas and electricity referred to in clause (1) of Section 4(a) of the Act. Section 13 of the Act regulates the performance of service contracts referred to in clause (2) of Section 4(a). Sections 6 and 7 regulate issuance of securities referred to in clause (3) of Section 4(a). Sections 8, 9 and 10 regulate the acquisitions referred to in clause (4) of Section 4(a).

can have nothing to do with applying Section 11(b)(1) to that company as engaged in interstate commerce or affecting or burdening interstate commerce in the year 1935 and thereafter. It certainly cannot be the basis of applying Section 11(b)(1) to another company merely because the first company owns 10% of its voting shares. Yet through the registration under Section 5 compelled by subsection (b) of Section 4, Section 11(b)(1) purports to operate on companies solely because they, or some other company which happens to own 10% or more of their voting stock, sold securities in that way at that early date.

It has been shown that Section 11(b)(1) does not rest on the federal power over interstate commerce, since it applies to companies irrespective of whether they are engaged in interstate commerce or affect interstate commerce, and irrespective of their use of the instrumentalities of interstate commerce or the mails. It will be shown below that Section 11(b)(1) cannot constitutionally be applied even to companies which do use the instrumentalities of interstate commerce or the mails, merely because of such use.

3. Section 11(b)(1) cannot be sustained as a regulation of the use of the mails or instrumentalities of interstate commerce.

It cannot be argued that Section 11(b)(1) rests on federal power over the use of the mails or the instrumentalities of interstate commerce, simply because the federal power over the mails and instrumentalities of interstate commerce was used in Section 4(a) to compel holding companies to register and thereby bring themselves and all their subsidiaries within the wording of Section 11(b)(1) as registered holding companies. Not only is this argument disposed of by the decision in *Electric Bond and Share Co.* v. *Securities and Exchange Commission*, 303 U. S. 419

(1938), *supra*, but it has uniformly been held that the Federal Government cannot use one of its enumerated powers to regulate matters not within its power. It cannot be pretended that Section 11(b)(1) regulates the use of the mails or such instrumentalities of interstate commerce.

As this Court said in *Electric Bond and Share Co.* v. *Securities and Exchange Commission*, 303 U. S. 419 (1938), *supra* (p. 442):

> "* * * Congress may not exercise its control over the mails to enforce a requirement which lies outside its constitutional province * * *."

Mr. Justice Holmes said in *The Pipe Line Cases*, 234 U. S. 548, 560-61 (1914):

> "The control of Congress over commerce among the States cannot be made a means of exercising powers not entrusted to it by the Constitution, * * *."

This principle was announced early. Chief Justice Marshall, in *McCulloch* v. *Maryland*, 4 Wheaton 316 (1819), said (p. 422):

> "should Congress, under the pretext of executing its powers, pass laws for the accomplishment of objects not entrusted to the government; it would become the painful duty of this tribunal, should a case requiring such a decision come before it, to say, that such an act was not the law of the land."

The principle has been most frequently applied in declaring invalid tax statutes passed by the Federal Government to regulate local matters not within its power.*

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* *Hill* v. *Wallace*, 259 U. S. 44 (1922) (Tax on transactions not on a regulated grain exchange.)
Linder v. *U. S.*, 268 U. S. 5 (1925) (Invalid regulation of doctor's prescription for ostensible enforcement of Narcotic Tax Law—validity of tax not questioned.)

The principle is applicable to the powers exercised by the states.

> *Frost & Frost Trucking Co.* v. *Railroad Commission of California*, 271 U. S. 583 (1926);
> *Western Union Telegraph Co.* v. *Foster*, 247 U. S. 105 (1918);

In the latter case, Mr. Justice Holmes said (p. 114):

> "* * *, and a constitutional power cannot be used by way of condition to attain an unconstitutional result."

In concluding this Point, we call to the attention of the Court that not only has Congress made no finding, nor required the S. E. C. to find, that companies to which Section 11(b)(1) is applied are in, or affect, interstate commerce, but, in addition, Congress has not found, nor required the S. E. C. to find, nor has the S. E. C. found, that the action the S. E. C. has ordered taken will have any effect on interstate commerce, beneficial or otherwise, or is appro-

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U. S. v. *Constantine*, 296 U. S. 287 (1935) (Liquor license tax which was higher for dealers violating state law than for those complying therewith.)
U. S. v. *Butler*, 297 U. S. 1 (1936) (Processing tax linked to regulation of agriculture. Here the tax was not used as a penalty.)
Carter v. *Carter Coal Company*, 298 U. S. 238 (1936) (Heavy tax on sales from which exemption could be obtained by complying with regulations.)

The dissenting Justices in some of these cases simply disagreed that the statute was an attempted regulation rather than a true exercise of the taxing power, but fully recognized the principle. For example, Mr. Justice Stone, dissenting in *U. S.* v. *Butler*, 297 U. S. 1 (1936), *supra*, at page 87 said:

> "The power to tax and spend is not without constitutional restraints. One restriction is that the purpose must be truly national. Another is that it may not be used to coerce action left to state control."

priate in the light of any effect it may have on interstate commerce. No one has found that the divestments ordered pursuant to Section 11(b)(1) have any "substantial economic effect" on interstate commerce. (*Cf.* statement in *Wickard v. Filburn*, 317 U. S. 111 (1942) by Mr. Justice Jackson, at p. 125, on the point that at least a "substantial economic effect" on interstate commerce must be shown before there is Congressional power to take action.)

If Section 11(b)(1) could be held to rest on a federal power, there would be no limit to the subject matter of federal power and nothing would be outside the scope of federal power, except matters of domestic relations or the like. There is no suggestion that there is any federal power to regulate public utilities as such and there is nothing about the public utility field which would lead to a conclusion that federal power could apply only to corporations in that field and not to corporations in all other fields of industry. Consequently, if Section 11(b)(1) could be upheld as within the federal power, this power would extend over all types of industry, and an analogue to Section 11(b)(1) could be so applied. A federal commission for all industry, or federal commissions for separate industries, could reshape the corporations and groups of corporations therein, and decree (as under Section 11(b)(1)) that they have too many plants or other assets and must give up most of them, or (as under Section 11(b)(2)) that their structure is "unduly or unnecessarily complicated" or the distribution of voting power therein is "unfair or inequitable", and, if the construction which has been placed on Section 11(b)(2) by the S. E. C. is correct, dissolve them.

II. The constitutional limitations on federal power imposed by the due process clause of the Fifth Amendment are violated by Section 11(b)(1).

1. The subsection violates the due process clause by taking property for public use without a condemnation proceeding and just compensation.

Section 11(b)(1) authorizes the S. E. C. to require corporations to divest themselves of their assets, except for those falling in the strictly limited class which may be retained. This necessarily involves a taking of property which is prohibited by the Fifth Amendment so far as the Federal Government is concerned, and by the Fourteenth Amendment so far as the state governments are concerned. Certainly there is great value inherent in the assemblage of properties constituting the assets of North American (over and above the separate value of each item of its property) which will be lost through the divestment order.

The compulsion to sell properties pursuant to a divestment order also constitutes the taking of valuable property. Moreover, not only is the holder of such property a forced seller, but it has not the opportunity of choosing its own time for making sales of particular assets, that is, when circumstances are favorable for sales of those particular assets as the local situation affecting them develops. These disadvantages and the inevitable taking of property result from forced liquidation at any time but they are accentuated to a devastating degree in time of war. In such a period, there are no markets in which a reasonable price can be obtained for assets of any substantial size, and there are poor markets even for assets of small size.

In addition, a divestment order deprives investors in North American of the advantages which they purchased, including diversification of their investment and supervision by an efficient management of North American's investments in operating companies. Moreover, the corporations involved and the investors therein will be deprived, by the carrying out of the divestment order, of the benefit resulting from the consolidation provisions of the federal income tax laws.

All of these items of property are, under Section 11(b)(1), to be taken from corporations and persons who are not even claimed to have violated any law, merely because Congress has decided that the theoretically ideal structure in the public utility field is an integrated public holding company system of comparatively small size and that it is for the general public good that larger systems be dismembered notwithstanding the grave loss which this will inflict upon those systems and the investors in them.

Thus, this property is being taken under Section 11(b)(1) for the purpose of creating theoretically ideal structures in the public utility field which is deemed to benefit the public generally. As was held in a recent decision of this Court, the taking of this sort of private property for this sort of public purpose requires a condemnation proceeding, involving just compensation, in order to accord with the due process clause of the Fifth Amendment. *Louisville Joint Stock Land Bank* v. *Radford*, 295 U. S. 555 (1935).

Section 11(b)(1) from the standpoint of the due process clause is very similar to the first Frazier-Lemke Act, adopted as part of the Bankruptcy Act, which was held invalid in the *Radford* case. Under that Act, farmers' assets and financial obligations were to be reorganized,

with the view that it was in the public interest to leave farmers in possession, and also preferably in ownership, of their lands, and not to have them foreclosed out through inability to meet mortgage obligations.

To this end, the Frazier-Lemke Act provided that a farmer in default on his mortgage could have resort to a court of bankruptcy, which would permit him to remain in possession of his lands. Then the farmer was to purchase the property at its appraised value, through deferred payments over a six-year period, if the mortgagee consented. If the consent were not forthcoming, foreclosure proceedings were stayed for five years, and the farmer remained in possession, paying a "reasonable rental" annually. At the end of five years, or at any time prior thereto, the farmer might pay into Court the appraised value of the property in full discharge of the debt.

That Act applied to vested property rights, that is, to mortgages already existing at the time of the enactment of the Act. In the *Radford* case, this Court held that Act unconstitutional on the ground that it took substantive property rights, which had already vested, from mortgagees and transferred them to the farmer. The Court said that while this might well be in the public interest, it was not due process under the Fifth Amendment to do so without having a condemnation proceeding and paying just compensation to the mortgagee. In other words, the shifting of the property rights from the mortgagee to the farmer was a quasi-public taking, for a public economic or social purpose, and it was not due process to do so without a condemnation proceeding involving payment of compensation.

The public interest had been argued to the Court at length.* The Court said (Mr. Justice Brandeis), (p. 601):

> "We have no occasion to consider either the causes or the extent of farm tenancy; or whether its progressive increase would be arrested by the provisions of the Act. Nor need we consider the occupations of the beneficiaries of the legislation. These are matters for the consideration of Congress; and the extensive provision for the refinancing of farm mortgages which Congress has already made, shows that the gravity of the situation has been appreciated. The province of the Court is limited to deciding whether the Frazier-Lemke Act as applied has taken from the Bank without compensation, and given to Radford, rights in specific property which are of substantial value. * * * As we conclude that the Act as applied has done so, we must hold it void. For the Fifth Amendment commands that, however great the Nation's need, private property shall not be thus taken even for a wholly public use without just compensation. If the public interest requires, and permits,

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* The Court (Mr. Justice Brandeis) itself states that argument as follows (p. 598):

> "(1) The welfare of the Nation demands that our farms be individually owned by those who operate them. (2) To permit widespread foreclosure of farm mortgages would result in transferring ownership, in large measure, to great corporations; would transform farmer-owners into tenants or farm laborers; and would tend to create a peasant class. (3) There was grave danger at the time of the passage of the Act, that foreclosure of farms would become widespread. The persistent decline in the prices of agricultural products, as compared with the prices of articles which farmers are obliged to purchase, had been accentuated by the long continued depression and had made it impossible for farmers to pay the charges accruing under existing mortgages. (4) Thus had arisen an emergency requiring congressional action. To avert the threatened calamity the Act presented an appropriate remedy. Extensive economic data, of which in large part we may take judicial notice, were submitted in support of these propositions."

> the taking of property of individual mortgagees in order to relieve the necessities of individual mortgagors, resort must be had to proceedings by eminent domain; so that, through taxation, the burden of the relief afforded in the public interest may be borne by the public."

To the same effect as the *Radford* case is

> *Monongahela Navigation Co.* v. *United States*, 148 U. S. 312 (1893).

Also to the same effect is *Lord* v. *Equitable Life Assurance Society*, 194 N. Y. 212 (1909) in which the New York Court of Appeals, after referring to the fact that the state in that case had even reserved the right to amend the charter of the corporation involved, said (p. 227):

> "The right to amend a charter, however, does not include the right to take away money invested in reliance thereon, or property acquired thereunder. The power of amendment reserved by the Constitution or statutes of a state does not permit interference with property or property rights, because they are protected by the Constitution of the United States. When the legislature has created a corporation and has given it power to acquire property, it cannot take away the property so acquired without providing for compensation. (*Mayor, etc., of N. Y.* v. *Twenty-third St. Ry. Co.*, 113 N. Y. 311, 317.)"

The present case is strikingly parallel to the *Radford* case. Section 11(b)(1) is a statute involving the destruction of valuable property rights. It is allegedly founded on a public interest in the structure of public utility holding company systems, or of the corporations making up the systems. The Act recites the national public interest, the interest of consumers, and the interest of

investors, and even the interests of the states. It proceeds, as did the Act involved in the *Radford* case, without a condemnation proceeding, and also, as pointed out hereinafter in this Point, without the minimum safeguards necessary for a reorganization statute, and does not even purport to be a bankruptcy statute but operates on solvent corporations.

Are there any points of difference, so far as concerns the application of the Fifth Amendment, between the present case and the *Radford* case which would impel a court to depart from the holding in the *Radford* case? On the contrary, if there are any differences, they call for the application of the due process clause in this case more strongly than in the *Radford* case. Insolvency is not required to be present (as it was in the case of the Frazier-Lemke Act) for the S. E. C. to proceed under Section 11(b)(1), and there are not present the safeguards provided in the Frazier-Lemke Act and also in the other supplements to the Bankruptcy Act.

It is not a distinction, as pointed out in Point II(4) below, which obviates the application of the due process clause that, in the present situation, it is charged, or found, by Congress, or the S. E. C., or both, that prior to the enactment of the Act, public utility holding companies erected their systems by financing arrangements and methods now condemned by Congress, or the S. E. C., but not, at the time, in violation of law. The point is, that the property rights legally existed in the systems at the time of the enactment of the Act. This, in itself, brings into play the requirements of due process. As this Court said in the *Radford* case (p. 589):

> "Because the Act is retroactive in terms and as here applied purports to take away rights of the mort-

gagee in specific property, another provision of the Constitution is controlling.

"*Fourth.* The bankruptcy power, like the other great substantive powers of Congress, is subject to the Fifth Amendment."

The Court below held in the present case that the divestment required under Section 11(b)(1) was not a violation of the due process clause as a taking of property for public use without payment of just compensation. The Court said (133 F. (2d), at p. 154):

"Under section 11(c) the petitioner is given a year within which to comply with the order and may on proper showing obtain an additional period not exceeding one year. If divestment can be effected by distribution in kind, there may be no loss in values. If, as petitioner contends, such distribution will be impossible and a liquidation by sale becomes necessary, the process may be painful to its common stockholders, but we cannot say that the remedy selected by Congress is so unreasonable, arbitrary or capricious as to constitute taking property without due process."

This reasoning of the Court below can hardly be persuasive. The Court said there *might* be no loss in values if divestment could be effected by distribution in kind. But distribution in kind would only serve to avoid losses due to inability to obtain a fair market value for the assets to be divested. There would nevertheless remain great losses such as are mentioned at the beginning of this Point, including the value inherent in the assemblage of North American's securities and in the diversification afforded to the investors in North American's securities and the income tax savings effected by consolidated income tax re-

turns. Furthermore, with debentures and preferred stock outstanding aggregating over $100,000,000 at their liquidation or redemption prices, it is plain that a large amount of liquidation of securities will in any event be necessary in carrying out the divestment order even if some assets can be distributed in kind. But the greatest difficulty with the above-quoted portion of the opinion of the Court below is the statement, in effect, that although a taking of North American's property as a result of the divestment order might "be painful to its common stockholders", the divestment was not "capricious" and, therefore, did not constitute a taking of property without due process. How capriciousness can be the test of whether property may be taken for a public use without condemnation and compensation is difficult to see. The ordinary taking for a public use is deliberate and the opposite of capricious. When property is taken for a public highway, this is not capriciously done, but property directly in the planned right of way is selected. Does the fact that such taking is deliberate and appropriate and not capricious mean that the property does not have to be paid for?

Nor is the type of property of which North American is required to divest itself, *i. e.*, securities, entitled to less protection through the due process clause than tangible property, such as land. In the *Radford* case, this Court held that impairment of the substantive rights of a mortgagee, purely intangible rights, even if done in the public interest in order to keep farmers on their farms, was contrary to the due process clause for failure to have a condemnation proceeding, including payment of just compensation. Surely, the decision and reasoning of this Court in the *Radford* case will be deemed controlling here and not the erroneous reasoning of the Court below in the present case. Also in

Monongahela Navigation Co. v. *U. S.*, 148 U. S. 312 (1893) *supra*, this Court held that intangible property (a franchise to collect tolls) was protected by the due process clause from being taken without condemnation and payment of just compensation.

2. The subsection violates the due process clause by subjecting solvent corporations to compulsory involuntary reorganization or liquidation.

The S. E. C. contends that under Section 11(b)(1) and under Section 11(d), the provision for enforcement of Section 11, any state corporation can be reorganized or liquidated by the Federal Government, whether it is solvent or insolvent.

This is contrary to first principles. Compulsory involuntary reorganization can only take place through the exercise of the bankruptcy power,* and the exercise of the bankruptcy power is dependent on the *insolvency*, in either the bankruptcy or equity sense, of the subject.

> *Continental Illinois National Bank & Trust Co.* v. *Chicago, Rock Island & Pacific Ry. Co.*, 294 U. S. 648 (1935);
>
> *Wright* v. *Union Central Life Insurance Co.*, 304 U. S. 502 (1938).

In the *Continental Illinois* case this Court said as to the bankruptcy power (p. 670):

> "Judge Cowen, in *Kunzler* v. *Kohaus*, 5 Hill 317, 321, a decision which was approved by this court in

* So-called reorganizations in equity are simply foreclosures under the exercise of a mortgagee's contractual power to compel the sale of the mortgaged assets or are in the nature of execution sales to satisfy creditors' claims. The creditor then takes his share of the price or has the option of taking securities in a new corporation, which acquires the assets of the old. Even this type of reorganization is not effected unless the debtor company is in financial distress.

> *Hanover National Bank* v. *Moyses*, [180 U. S. 181] *supra*, said that the power was the same as though Congress had been authorized 'to establish uniform laws on the subject of any person's general inability to pay his debts * * *'".

In the *Wright* case this Court said (p. 513):

> "The subject of bankruptcies is nothing less than 'the subject of the relations between an insolvent or nonpaying or fraudulent debtor and his creditors, extending to his and their relief.' This definition of Judge Blatchford, afterwards a member of this Court, has been cited with approval here."

Take the situation of North American itself. There is no finding, and there could be none, that it is insolvent in any sense. There has never been a default on any security of North American. On any basis of valuation, it cannot be disputed that there is a real and substantial equity for its common stock. In the *Radford* case, *supra*, where the statute for reorganization of farmers' finances was held invalid, at least there was present a factor permitting exercise of the bankruptcy power, which is missing here. Radford was insolvent and unable to pay his creditors. Nevertheless, the taking of substantive rights of his creditors under that statute was held unconstitutional. The reorganization statute involved here is outlawed for the reasons condemning the statute in the *Radford* case and also for the further reason that it is made applicable to solvent corporations.

3. The subsection violates the due process clause because it does not contain the minimum safeguards required even for an exercise of the bankruptcy power.

Section 11(b)(1) and Section 11(d), which provides for enforcement of orders issued under Section 11(b)(1), lack

at least two minimum safeguards which every bankruptcy act applicable to insolvent debtors must contain in order to comply with the due process clause. If a bankruptcy reorganization act would be invalid without these two safeguards, as in violation of the due process clause, certainly a reorganization act which is applicable to solvent corporations which are not subject to the bankruptcy power must be invalid if such safeguards are missing. The missing safeguards are:

(1) Provisions requiring a hearing before the Court, for security holders of the companies to be reorganized.

There is no provision whatever in the Act that security holders shall have a hearing before the Federal Court on any issue regarding divestment of assets under Section 11(b)(1) or any order relating thereto or the reorganization made necessary by the divestment of assets. Nor is there even any provision in the Act giving security holders a right to any hearing before the S. E. C.*

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* There is a provision that the S. E. C. *may* grant security holders a hearing. This word "may" in the Act (Section 19) cannot be construed as mandatory because in the same sentence it is provided that the S. E. C. *shall admit as a party* any interested state, state commission or political subdivision of a state. As this Court held in *Coe* v. *Armour Fertilizer Works*, 237 U. S. 413, 424-5 (1915) as to the absence of a statutory requirement of a hearing for stockholders:

> "Nor can extra-official or casual notice, or a hearing granted as a matter of favor or discretion, be deemed a substantial substitute for the due process of law that the Constitution requires. * * * 'It is not enough that the owners may by chance have notice, or that they may as a matter of favor have a hearing. The law must require notice to them, and give them the right to a hearing and an opportunity to be heard.' The soundness of this doctrine has repeatedly been recognized by this court."

Similarly, it has been held by this Court that actual notice given as a matter of discretion does not meet the due process requirement that reasonable notice be mandatory under the statute. *Wuchter* v. *Pizzutti*, 276 U. S. 13 (1928).

(2) Provision for vote or consent of security holders affected.

There is no provision whatever in the Act for any vote or consent of security holders in respect of any reorganization to be effected under Section 11(b)(1) and Section 11(d). In *Louisville Joint Stock Land Bank* v. *Radford*, 295 U. S. 555 (1935), *supra*, this Court held that, under a reorganization statute for farmers, the substantive rights of the farmer's mortgagee could not be adversely affected without the mortgagee's consent, unless the mortgagee belonged to a class, the majority of which voted for, or consented to, the change in rights, and unless the change was approved by the Court. These are two of the minimum safeguards required for any compulsory reorganization. On this point this Court said (Mr. Justice Brandeis) at pages 585-6:

> "Nor do the provisions of the bankruptcy acts concerning compositions afford any analogy to the provisions of Paragraph 7. So far as concerns the debtor, the composition is an agreement with the creditors in lieu of a distribution of the property in bankruptcy—an agreement which 'originates in a voluntary offer by the bankrupt, and results in the main, from voluntary acceptance by his creditors.' * * * In no case of composition is a secured claim affected except when the holder is a member of a class; and then only when the composition is desired by the requisite majority and is approved by the court."

To the same effect with respect to railroad bankruptcy reorganizations is *Continental Illinois National Bank & Trust Co.* v. *Chicago, Rock Island & Pacific Ry. Co.*, 294 U. S. 648 (1935), *supra* (pp. 673, 675).

There is something startling about the conception that North American's assets can be ordered to be divested and

the rights of its security holders can be changed, *i. e.*, reorganized or liquidated, by the simple fiat of a federal commission when no insolvency is involved and none of the safeguards employed in the bankruptcy process are used. Why has this not been done in the railroad field? A large number of the railroad systems of the country are insolvent and have been in reorganization proceedings for eight to ten years. With Congress, the Courts and the Interstate Commerce Commission exercising all their ingenuity to expedite and simplify the reorganization process, this simple procedure, ignoring private rights, has not been applied to the railroads. If the procedure is valid here, it is valid not only for insolvent railroads but for railroads which are solvent. All power under the commerce clause may be used in the case of solvent or insolvent railroads; the major railroad systems are beyond question fully in interstate commerce. Insolvent railroads are also a proper subject for the exercise of the bankruptcy power. Yet no one has thought that the fundamental rights of the railroads and their security holders can be taken by any such procedure as that set out in Section 11. It would obviously be a violation of the due process clause.

4. If Section 11(b)(1) is sought to be sustained on the basis of alleged abuses (which were not violations of law) occurring prior to its enactment, the Section violates the due process clause as in effect the enforcement of an *ex post facto* law.

Section 1 of the Act recites alleged abuses by public utility holding companies which occurred prior to the enactment of the Act and which were not in violation of any law existing at the time the alleged abuses occurred. The S. E. C. in the Court below tried to use these recitals as a basis of support for Section 11(b)(1), for it submitted,

as an appendix to its brief, a so-called "Economic Supplement" which contained reference to instances of such abuses relating to public utility holding companies. Moreover the S. E. C. tried to draw some analogy between Section 11(b)(1) and the Sherman Anti-Trust Act.

While such alleged abuses may form a basis for *regulation* of *future activities* of public utility holding companies, so far as such activities affect interstate commerce, they can form no basis for Section 11(b)(1), which is not regulatory but which takes existing property rights legally acquired.

If abuses occurring prior to the enactment of the Act and not violating any then existing law are the basis for the taking of property through Section 11(b)(1), the Section imposes a penalty for past acts which did not violate any law at the time committed, and the Section violates the due process clause as in effect the enforcement of an unconstitutional *ex post facto* law. A law need not be *in form* a criminal law to violate the prohibition.

> *Fletcher* v. *Peck*, 6 Cranch, 87 (1810) (annulling title to real property);
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> *Cummings* v. *The State of Missouri*, 4 Wall. 277 (1866) (denial of right to hold office and practice profession);
>
> *Ex parte Garland*, 4 Wall. 333 (1866) (denial of right to practice profession);
>
> *Pierce* v. *Carskadon*, 16 Wall. 234 (1872) (denial of right to defend legal proceedings).

Just as the taking of property without just compensation is a violation of the due process clause (as was held by this Court in the *Radford* case), so also the taking of property as a penalty under a law which is in effect an *ex post facto* law is a violation of the due process clause.

Nor is there any analogy here to the cases under the anti-trust laws as claimed by the S. E. C. In such cases corporations are required to divest themselves of their properties, but the ground for the divestment is that the properties had been put together and combined in violation of the anti-trust laws existing at the time the combinations were put together. There is no charge here that North American acquired any of its properties in violation of any law or statutory prohibition existing at the time of the acquisitions. Consequently, no support can be drawn by the S. E. C. from the cases under the anti-trust laws.

Conclusion.

Section 11(b)(1) should be held by this Court to be unconstitutional in that it does not rest on any federal power but has a scope beyond any federal power, and in that it is a violation of the due process clause of the Fifth Amendment.

Respectfully submitted,

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March 30, 1943.

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SUPREME COURT OF THE UNITED STATES.

No. 1.—October Term, 1945.

The North American Company, Petitioner, *vs.* Securities and Exchange Commission.	On Writ of Certiorari to the United States Circuit Court of Appeals for the Second Circuit.

[April 1, 1946.]

Mr. Justice Murphy delivered the opinion of the Court.

Congress enacted the Public Utility Holding Company Act of 1935, 49 Stat. 803, in order to correct grave abuses which it had found in the use of the holding company device in the nation's electric and gas utility industries. This Court in *Electric Bond & Share Co.* v. *Securities and Exchange Commission*, 303 U. S. 419, held constitutional the various provisions of the Act relating to the registration of holding companies as therein defined. In this case we are called upon to determine the constitutionality of § 11(b)(1) of the Act, authorizing the Securities and Exchange Commission to act to bring about the geographic and economic integration of holding company systems. Specifically, we must decide whether this requirement falls within the power of Congress to regulate commerce among the several states and whether it violates the due process clause of the Fifth Amendment.

The North American Company, the petitioner, is a holding company within the meaning of the Act, § 2(a)(7), and is registered as such with the Securities and Exchange Commission.[1] The Commission instituted appropriate administrative proceedings against North American under § 11(b)(1), the provisions of which apply to registered holding companies. As a result, the Commission entered orders limiting North American's properties to those which, in the Commission's judgment, complied with the standards of § 11(b)(1) and compelling it to sever relationships with all its other properties.[2] The court below, after affirming the orders of the Commission on a statutory level, rejected North

[1] North American registered with the Commission on February 25, 1937, reserving its right to challenge the constitutionality of § 11(b)(1) and other portions of the Act. See Landis v. The North American Company, 299 U. S. 248, 251-252; Electric Bond & Share Co. v. Securities and Exchange Commission, 303 U. S. 419, 435.

[2] Holding Company Act Releases Nos. 3405 and 3629.

American's constitutional objections. 133 F. 2d 148. Only these constitutional issues are now before us.

As was the situation in the *Electric Bond & Share Co.* case, North American is clearly engaged in activities which bring it within the ambit of congressional authority. North American is a typical utility holding company. It is the pinnacle of a great pyramid of corporations, the majority of which operate electric and gas utility properties. These properties are scattered throughout the United States, many of them serving large cities and contiguous territories.[3] Electric energy is transmitted across state lines by numerous companies in the pyramid or system.[4] As of December 31, 1940, there were some eighty corporations in the system, with an aggregate capitalized value in excess of $2,300,000,000. Organized in New Jersey in 1890 and maintaining business headquarters in New York City, North American maintains direct or indirect interests in these corporations through the medium of stock ownership. It is that medium that binds the system together.

North American owns stock directly in ten of the corporations, holding 79% or more of the common stock of eight of them and 17.71% and 19.2%, respectively, of the voting securities of the other two. Three of these direct subsidiaries are registered holding companies: (1) Union Electric Company of Missouri, operating in and around St. Louis, Mo., and with subsidiaries operating in Illinois and Iowa as well; (2) Washington Railway and Electric Company, with subsidiaries operating in the District of Columbia and adjacent territory in Virginia and Maryland; and (3) North American Light & Power Company, operating extensive systems in Kansas, Missouri, Illinois and Iowa in addition to being the parent of several registered holding companies.

Four of the direct subsidiaries of North American are operating companies: (1) Cleveland Electric Illuminating Company, serving Cleveland, Ohio, and surrounding territory; (2) Pacific Gas & Electric Company, serving large areas in California; (3) The Detroit Edison Company, serving Detroit and vicinity; and (4) Wisconsin Electric Power Company, a holding company with subsidiaries operating an integrated electric utility system in Wisconsin and Michigan.

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[3] Federal Trade Commission Report to the Senate, "Utility Corporations," Sen. Doc. 92, Part 72-A, 70th Cong., 1st Sess., pp. 107-110, 706-716.

[4] In 1929 and 1930, companies in the North American system transmitted 9.3% and 7.7%, respectively, of the total amount of electric energy transmitted across state boundaries in the United States. Federal Trade Commission Report, *supra*, note 3, p. 43, Table 13.

The other three direct subsidiaries are (1) North American Utility Securities Corporation, an investment trust; (2) West Kentucky Coal Company, which owns and operates a coal mine in Kentucky and sells coal in interstate commerce; and (3) 60 Broadway Building Corporation, which owns the office building in New York City where petitioner has its offices.

The various companies in the North American system perform a variety of functions from electric and gas service to railroad transportation, warehousing and amusement park operations. All told, they conduct business in seventeen states and the District of Columbia. Electric service alone is provided for more than 3,000,000 customers in an area of roughly 165,000 square miles.

North American claims that its sole and continuous business has been that of acquiring and holding for investment purposes stocks and other securities of the subsidiaries, its relationship being essentially that of "a large investor seeking to promote the sound development of his investment." Active intervention on North American's part in the activities of these companies, it is true, has been of a limited character. Operations and operational policies, the Commission found, have been left entirely to the local managements. Nor has North American sold these subsidiaries any supplies or engineering service. [redacted]s lack of active intervention, however, is indecisive. It appears to have resulted in large part from North American's satisfaction with the local managements of the subsidiaries and from the fact that the local managements have often included men selected by or historically related to North American. See *Detroit Edison Co.* v. *Securities and Exchange Commission*, 119 F. 2d 730, 734-735; *Pacific Gas & Electric Co.* v. *Securities and Exchange Commission*, 127 F. 2d 378, 383-384. The Commission was thus warranted in considering the harmonization of local policies with those of North American as a fact, the absence of conflicts making affirmative action by North American unnecessary. But it does not follow that North American's domination of its system was any less real or effective. Historical ties and associations, combined with strategic holdings of stock, can on occasion serve as a potent substitute for the more obvious modes of control. See *Southern Pacific Co.* v. *Bogert*, 250 U. S. 483, 491-492; *Natural Gas Co.* v. *Slattery*, 302 U. S. 300, 307-308. Domination may spring as readily from subtle or unexercised power as from arbitrary imposition of command. To conclude otherwise is to ignore the realities of intercorporate relationships. *Rochester Telephone*

Corp. v. *United States*, 307 U. S. 125, 145-146. In light of the extensiveness of North American's holdings of the securities of its subsidiaries and the penetration of local managements with men of North American background, the Commission was justified in treating North American as possessing domination over its subsidiaries or the power to dominate them when and if necessary.[5]

But North American in some respects has actually intervened in the activities of its subsidiaries. It has affirmatively participated in and dominated their financing operations.[6] So completely has it taken over the planning and handling of the various flotations of securities that North American urged before the Commission, though in vain, that the subsidiaries were incompetent to handle such matters and that it would be highly uneconomical for them to attempt to do so. As the Commission noted, the ability to dominate this financing and to control the flow, through underwriting channels, of millions of dollars of securities has been of great value and benefit to North American, in addition to being of aid to the subsidiaries. North American has also provided the subsidiaries with advisory and consultative facilities in relation to management problems; and intercompany committees have been created to serve as clearing houses for technical and accounting information.

The interstate character of North American and its subsidiaries is readily apparent from the Commission's survey of their activities. North American is more than a mere investor in its subsidiaries. See *Northern Securities Co.* v. *United States*, 193 U. S. 197, 353-354. It is the nucleus of a far-flung empire of corporations extending from New York to California and covering seventeen states and the District of Columbia. Its influence and domination permeate the entire system and frequently evidence themselves in affirmative ways. The mails and the instrumentalities of interstate commerce are vital to the functioning of this system. They have more than a casual or incidental relationship. Cf. *Ware & Leland* v. *Mobile County*, 209 U. S. 405; *Blumenstock Bros.* v. *Curtis Pub. Co.*, 252 U. S. 436; *Federal Baseball Club* v. *National*

[5] As to only two of the subsidiaries, the Detroit Edison Company and the Pacific Gas & Electric Company, has a claim been raised that they were not controlled by or subject to a controlling influence of North American. The Commission rejected both claims after hearings and its determinations were sustained upon appeal. Detroit Edison Co. v. Securities and Exchange Commission, 119 F. 2d 730, cert. denied, 314 U. S. 618; Pacific Gas & Electric Co. v. Securities and Exchange Commission, 127 F. 2d 378, affirmed on rehearing by equally divided court, 139 F. 2d 298, affirmed by equally divided Court, 324 U. S. 826.

[6] See Federal Trade Commission Report, *supra*, note 3, p. 347.

League, 259 U. S. 200. Without them, North American would be unable to float the various security issues of its own or of its subsidiaries, thereby selling securities to residents of every state in the nation. Without them, North American would be unable to exercise and maintain the influence arising from its large stock holdings, receiving notices and reports, sending proxies to stockholders' meetings, collecting dividends and interest, and transmitting whatever instructions and advice may be necessary. Nor could North American maintain its other relationships and contacts with its own subsidiaries without the use of the mails and facilities of interstate commerce. Such interstate commercial transactions involve the very essence of North American's business. See *International Textbook Co.* v. *Pigg*, 217 U. S. 91. They enable it "to promote the sound development" of its investments from its headquarters in New York City. In short, they are commerce which concerns more states than one. *Gibbons* v. *Ogden*, 9 Wheat 1, 194; *Second Employers' Liability Cases*, 223 U. S. 1, 46; *The Minnesota Rate Cases*, 230 U. S. 352, 398. As stated by this Court in *Associated Press v. National Labor Relations Board*, 301 U. S. 103, 128, "Interstate communication of a business nature, whatever the means of such communication, is interstate commerce regulable by Congress under the Constitution."

Moreover, North American concedes that four of its direct utility subsidiaries, Union Electric Company of Missouri, Washington Railway and Electric Company, North American Light & Power Company and Wisconsin Electric Power Company, transmit energy across state lines and hence are engaged in interstate commerce. It further concedes that its subsidiary West Kentucky Coal Company is engaged in interstate commerce, although contending that the remaining five direct subsidiaries are not so engaged. In view of North American's very substantial stock interest and its domination as to the affairs of its subsidiaries, as well as its latent power to exercise even more affirmative influence, it cannot hide behind the facade of a mere investor. Their acts are its acts in the sense that what is interstate as to them is interstate as to North American. These subsidiaries thus accentuate and add materially to the interstate character of North American. *Electric Bond & Share Co.* v. *Securities and Exchange Commission*, *supra*, 440. They make even more inescapable the conclusion that North American bears not only a "highly important relation to interstate commerce and the national economy," *Id.*, p. 441, but is actually engaged in interstate commerce. It is thus subject to

appropriate regulatory measures adopted by Congress under its commerce power.

Turning to § 11(b)(1)[7] and its constitutional impact upon North American, we find that it directs the Commission to apply its provisions to holding companies engaged in interstate commerce. In essence, it confines the operations of each holding company system to a single integrated public utility system with provision for the retention of additional systems only if they are relatively small, located close to the single system and unable to operate economically under separate management without the loss of substantial economies; in addition, other holdings may be retained only if their retention is related to the operations of the retained utility properties.

These requirements of § 11(b)(1) apply only to registered holding companies. A holding company, by statutory definition, is a company that controls or possesses a controlling influence over an electric or gas utility company. § 2(a)(7). A holding of 10% or more of the outstanding voting securities of such a utility company is presumed to be sufficient to constitute such a relationship, but this presumption may be rebutted by proof before the Commission of a lack of control or controlling influence.

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[7] "Sec. 11(a) . . .

"(b) It shall be the duty of the Commission, as soon as practicable after January 1, 1938:

"(1) To require by order, after notice and opportunity for hearing, that each registered holding company, and each subsidiary company thereof, shall take such action as the Commission shall find necessary to limit the operations of the holding company system of which such company is a part to a single integrated public utility system, and to such other businesses as are reasonably incidental, or economically necessary or appropriate to the operations of such integrated public utility system: *Provided, however,* That the Commission shall permit a registered holding company to continue to control one or more additional integrated public utility systems, if, after notice and opportunity for hearing, it finds that—

"(A) Each of such additional systems cannot be operated as an independent system without the loss of substantial economies which can be secured by the retention of control by such holding company of such system;

"(B) All of such additional systems are located in one State, or in adjoining States, or in a contiguous foreign territory; and

"(C) The continued combination of such systems under the control of such holding company is not so large (considering the state of the art and the area or region affected) as to impair the advantages of localized management, efficient operation, or the effectiveness of regulation.

The Commission may permit as reasonably incidental, or economically necessary or appropriate to the operations of one or more integrated public utility systems the retention of an interest in any business (other than the business of a public utility company as such) which the Commission shall find necessary or appropriate in the public interest or for the protection of investors or consumers and not detrimental to the proper functioning of such system or systems."

Accordingly, a company that is a mere investor in utility securities and that does not control or possess a controlling influence over the utility companies need not comply with § 11(b)(1).

A holding company as so defined must register and hence must obey the commands of § 11(b)(1) if it uses the mails or the instrumentalities of interstate commerce directly or through its subsidiaries in the operation of its business.[8] Thus a holding company may sell, transport or distribute gas or electric energy in interstate commerce. § 4(a)(1). It may use the mails or interstate commerce to negotiate or perform service, sales or construction contracts with other companies in the system. § 4(a)(2). It may use the mails or interstate commerce to distribute or make public offerings for the sale or exchange of securities of its own or of other system companies. § 4(a)(3). It may use the mails or interstate commerce to acquire securities or utility assets of other companies. § 4(a)(4). It may engage in a business in interstate commerce. § 4(a)(5). Or it may own or control securities of subsidiaries that do any of the foregoing acts. § 4(a)(6). Moreover, § 2(a)(28) defines "interstate commerce," as used in these and other provisions of the Act, to mean "trade, commerce, transportation, transmission, or communication among the several States or between any State and any place outside thereof."

By making these enumerated interstate transactions unlawful unless the holding company registers with the Commission and by extending § 11(b)(1) to registered holding companies, Congress has effectively applied § 11(b)(1) to those holding companies that are in fact in the stream of interstate activity and that affect commerce in more states than one. Congress has further declared in § 1(c) that all the provisions of the Act, thus including § 11(b)(1), shall be interpreted to meet the problems and remove the evils connected with public utility holding companies "which are engaged in interstate commerce or in activities which directly affect or burden interstate commerce." Section 11(b)(1) is thus clearly and unmistakably applicable to holding companies engaged in interstate commerce.

Not all holding companies that are engaged in interstate activities, however, must necessarily comply with § 11(b)(1). By the

[8] Section 4(b) compels holding companies to register if they have outstanding any security which has been distributed by the use of the mails or commerce, or offered for sale by like means, subsequent to January 1, 1925, and if that security is held on October 1, 1935, by any person not a resident of the state in which the holding company is organized. We need not here consider the force of this section, however, since North American and other interstate holding companies are forced to register by reason of the provisions of § 4(a).

terms of § 3(a)(1), if a holding company and all of its subsidiaries are predominantly intrastate in character and carry on their business substantially in a single state in which such holding company and every subsidiary thereof are organized, the Commission may grant an exemption from any provision of the Act "unless and except insofar as it finds the exemption detrimental to the public interest or the interest of investors or consumers."

The power of the Commission under the "unless and except" clause of § 3(a) to deny an exemption to a predominantly local holding company does not mean, as North American urges, that a holding company having no relation whatever to interstate commerce be subjected to § 11(b)(1) or to any other provision of the Act. The Commission, in denying an exemption under this clause, is bound by the policy set forth in § 1(c) to act so as to eliminate evils connected with holding companies "engaged in interstate commerce or in activities which directly affect or burden interstate commerce." A holding company predominantly local in character may nevertheless engage in activities affecting or burdening interstate commerce to the detriment of the public interest or the interests of investors and consumers. Only in such a case could the Commission properly deny an exemption under the "unless and except" clause.[9] This problem, however, is academic so far as North American is concerned. Like most public utility holding companies, North American is engaged in interstate commerce directly and through its subsidiaries. It can lay no claim to a predominantly intrastate character; as to it, § 3(a)(1) is wholly inapplicable. The possibility that the Commission might erroneously fail to exempt some truly local holding company from the provisions of § 11(b)(1) cannot negative the plain fact that § 11(b)(1) was designed to apply and does apply to holding companies engaged in interstate commerce. North American is therefore subject to its terms.

The crucial constitutional issue, so far as the commerce clause is concerned, resolves itself into the query whether Congress may validly require holding companies engaged in interstate commerce to dispose of their security holdings and to confine their activities in accordance with the standards of § 11(b)(1). In urging the negative answer to this query, North American relies upon the settled doctrine that the federal commerce power extends to intra-

[9] The Commission has recognized the fact that the declaration of policy in § 1(c) must be considered in granting or denying exemptions under § 3(a) to predominantly intrastate holding companies. See In re Niagara Hudson Power Corporation, Holding Company Act Release No. 5115; In re Long Island Lighting Company, Holding Company Act Release No. 5746.

state activities only where those activities "so affect interstate commerce, or the exertion of the power of Congress over it, as to make regulation of them appropriate means to the attainment of a legitimate end, the effective execution of the granted power to regulate interstate commerce." *United States* v. *Wrightwood Dairy Co.*, 315 U. S. 110, 119. See also *Santa Cruz Fruit Packing Co.* v. *National Labor Relations Board*, 303 U. S. 453, 466; *United States* v. *Darby*, 312 U. S. 100, 118-123; *Wickard* v. *Filburn*, 317 U. S. 111, 122-124. It is said that the ownership by North American of securities of other system companies is not in itself commerce, interstate or intrastate, and that the right to own or retain property is characteristically governed by state laws, the federal government having no concern with such matters except as an incident to the due exercise of one of its granted powers. North American denies that the necessary relationship between the ownership of securities and interstate commerce is self-evident or that it has been found as a fact by Congress, the Commission or any court. The absence of this relationship, it is concluded, causes § 11(b)(1) to fall.

This argument, however, misconceives not only the power of Congress over interstate commerce but also the basic nature of public utility holding companies and the effect that stock ownership has upon their activities. The dominant characteristic of a holding company is the ownership of securities by which it is possible to control or substantially to influence the policies and management of one or more operating companies in a particular field of enterprise.[10] To be sure, other devices may be utilized to effectuate control, such as voting trusts, interlocking directors and officers, the control of proxies, management contracts and the like. But the concentrated ownership of voting securities is the prime method of achieving control, constituting a more fundamental part of holding companies than of other types of business. Public utility holding companies are thereby able to build their gas and electric utility systems, often gerrymandered in such ways as to bear no relation to economy of operation or to effective regulation. The control arising from this ownership of securities also allows such holding companies to exact unreasonable fees, commissions and other charges from their subsidiaries, to make undue profits from the handling of the issue, sale and exchange of securities for

[10] Bonbright and Means, The Holding Company (1932), p. 10; Jones and Bigham, Principles of Public Utilities (1931), p. 589; Hearings before House Committee on Interstate and Foreign Commerce, 74th Cong., 1st Sess., on H. R. 5423, Part 1, pp. 76-77.

their subsidiaries, to issue unsound securities of their own based upon the inflated value of the subsidiaries, and to effect adversely the accounting practices and the rate and dividend policies of the subsidiaries. See § 1(b).[11] Congress has found that all of these various abuses and evils occur and are spread and perpetuated through the mails and the channels of interstate commerce. And Congress has further found that such interstate activities, which grow out of the ownership of securities of operating companies, have caused public utility holding companies to be "affected with a national public interest." § 1(a).[12]

The ownership of securities of operating companies, then, has a real and intimate relation to the interstate activities of holding companies and cannot be effectively divorced therefrom. That ownership is the generating force of the constant interstate flow of reports, letters, equipment, securities, accounts, instructions and money—all of which constitute the life blood of holding companies and allow the numerous abuses to be effectuated. It also makes the interstate transmission of gas and electricity by the subsidiaries, as well as their other interstate actions, reflect upon and magnify the interstate character of the holding companies. Without the factor of stock ownership the very foundation and framework of holding company systems would be gone and the amount of their interstate activity would be at a minimum; centralized management and control of widely scattered utility properties would be difficult if not impossible.

We may assume without deciding that the ownership of securities, considered separately and abstractly, is not commerce. But

[11] The congressional findings as to abuses listed in § 1(b), were based upon some of the most exhaustive and comprehensive studies ever to underlie a federal statute. Congress specifically referred in § 1(b) to the studies made by the Federal Trade Commission pursuant to S. Res. 83, 70th Cong., 1st Sess., the reports of the House Committee on Interstate and Foreign Commerce made pursuant to H. Res. 59, 72nd Cong., 1st Sess., and H. J. Res. 572, 72nd Cong., 2d Sess. A summary of the manifold and complex abuses revealed by these studies is contained in the Federal Trade Commission Report, *supra*, note 7. See Barnes, The Economics of Public Utility Regulation (1942), p. 71.

[12] The fact that § 1(a) refers to certain activities of holding companies as "often" occurring in or affecting interstate commerce and that § 1(b) refers to adverse effects "when" certain abuses and evils occur is but an instance of careful draftsmanship. Contrary to North American's contentions, the use of the words "often" and "when" does not imply that Congress felt that the relationships of some holding companies to commerce were negligible or that the abuses were other than general in nature. Those words merely recognize that interstate activities are not necessarily constant and that the abuses may arise from time to time. That is enough, however, to support legislative action. See Chicago Board of Trade v. Olsen, 262 U. S. 1, 40.

when it is considered in the context of public utility holding companies and their subsidiaries, its relationship to interstate commerce is so clear and definite as to make any other conclusion unreasonable. And Congress has plainly recognized that relationship in its declarations of policy in § 1(a), in its enumeration of abuses in § 1(b) and in its description of interstate activities of holding companies in § 4(a). Such statements would be utterly meaningless in the light of reality were they not premised upon the ownership of securities by holding companies and the use of that ownership to burden and affect the channels of interstate commerce.

Section 11(b)(1) is concerned with, and operates directly upon, this ownership of securities. In § 1(b)(4) Congress specifically found that the national public interest, the interest of utility investors and the interest of utility consumers are or may be adversely affected "when the growth and extension of holding companies bears no relation to economy of management and operation or the integration and coordination of related operating properties."[13] The "growth and extension of holding companies" obviously rest upon their security holdings. Congress expressed in § 1(c) its determination "to compel the simplification of public-utility holding-company systems and the elimination therefrom of properties detrimental to the proper functioning of such systems," thus eliminating the evil complained of in § 1(b)(4) and ameliorating the conditions specified in the other subsections of § 1(b). It accordingly adopted § 11(b)(1), whereby holding companies are compelled to integrate and coordinate their systems and to divest themselves of security holdings of geographically and economically unrelated properties. In this way Congress hoped to rejuvenate

[13] "The growth of the holding company systems has frequently been primarily dictated by promoters' dreams of far-flung power and bankers' schemes for security profits, and has often been attained with the great waste and disregard of public benefit which might be expected from such motives. Whole strings of companies with no particular relation to, and often essentially unconnected with, units in an existing system have been absorbed from time to time. The prices paid for additional units not only have been based upon inflated values but frequently have been run up out of reason by the rivalry of contending systems. Because this growth has been actuated primarily by a desire for size and the power inherent in size, the controlling groups have in many instances done no more than pay lip service to the principle of building up a system as an integrated and economic whole, which might bring actual benefits to its component parts from related operations and unified management. Instead, they have too frequently given us massive, overcapitalized organizations of ever-increasing complexity and steadily diminishing coordination and efficiency." Report of the National Power Policy Committee on Public-Utility Holding Companies, H. Doc. 137, 74th Cong., 1st Sess., p. 5.

local utility management and to restore effective state regulation, both of which had been seriously impaired by the existence and practices of nation-wide holding company systems.[14]

The constitutionality of § 11 (b) (1) under the commerce clause thus becomes apparent. For nearly one hundred and twenty-five years, this Court has recognized that the power of Congress over interstate commerce is "the power to regulate; that is, to prescribe the rule by which commerce is to be governed. This power, like all others vested in Congress, is complete in itself, may be exercised to its utmost extent, and acknowledges no limitations, other than are prescribed in the constitution." *Gibbons* v. *Ogden*, *supra*, 196. This is not to say, of course, that Congress is an absolute sovereign. It is limited by express provisions in other parts of the Constitution, such as Section 9 of Article I and the Bill of Rights. But so far as the commerce clause alone is concerned Congress has plenary power, a power which "extends to every part of interstate commerce, and to every instrumentality or agency by which it is carried on; and the full control by Congress of the subjects committed to its regulation is not to be denied or thwarted by the commingling of interstate and intrastate operations." *The Minnesota Rate Cases*, *supra*, 399.

This broad commerce clause does not operate so as to render the nation powerless to defend itself against economic forces that Congress decrees inimical or destructive of the national economy. Rather it is an affirmative power commensurate with the national needs. It is unrestricted by contrary state laws or private contracts. And in using this great power, Congress is not bound by technical legal conceptions. Commerce itself is an intensely practical matter. *Swift & Co.* v. *United States*, 196 U. S. 375, 398. To deal with it effectively, Congress must be able to act in terms of economic and financial realities. The commerce clause gives it authority so to act.

We need not attempt here to draw the outer limits of this plenary power. It is sufficient to reiterate the well-settled principle that Congress may impose relevant conditions and requirements on those who use the channels of interstate commerce in order that those channels will not become the means of promoting or spreading evil, whether of a physical, moral or economic nature.

[14] "As has been pointed out above, the purpose of section 11 is simply to provide a mechanism to create conditions under which effective Federal and State regulation will be possible. It is therefore the very heart of the title, the section most essential to the accomplishment of the purposes set forth in the President's message." S. Rep. 621, 74th Cong., 1st Sess., p. 11.

Brooks v. *United States*, 267 U. S. 432, 436-437. This power permits Congress to attack an evil directly at its source, provided that the evil bears a substantial relationship to interstate commerce. Congress thus has power to make direct assault upon such economic evils as those relating to labor relations, *National Labor Relations Board* v. *Jones & Laughlin Co.*, 301 U. S. 1, *Polish Alliance* v. *National Labor Relations Board*, 322 U. S. 643; to wages and hours, *United States* v. *Darby*, *supra*; to market transactions, *Stafford* v. *Wallace*, 258 U. S. 495; *Chicago Board of Trade* v. *Olsen*, 262 U. S. 1; and to monopolistic practices, *Northern Securities Co.* v. *United States*, *supra*. The fact that an evil may involve a corporation's financial practices, its business structure or its security portfolio does not detract from the power of Congress under the commerce clause to promulgate rules in order to destroy that evil. Once it is established that the evil concerns or affects commerce in more states than one, Congress may act. "The framers of the Constitution never intended that the legislative power of the nation should find itself incapable of disposing of a subject matter specifically committed to its charge." *In re Rahrer*, 140 U. S. 545, 562.

Congress in § 11(b)(1) of the Public Utility Holding Company Act was concerned with the economic evils resulting from uncoordinated and unintegrated public utility holding company systems. These evils were found to be polluting the channels of interstate commerce and to take the form of transactions occurring in and concerning more states than one. Congress also found that the national welfare was thereby harmed, as well as the interests of investors and consumers. These evils, moreover, were traceable in large part to the nature and extent of the securities owned by the holding companies. Congress therefore had power under the commerce clause to attempt to remove those evils by ordering the holding companies to divest themselves of the securities that made such evils possible.

It follows that North American's contention that the ownership of securities is not in itself interstate commerce and hence may not be made the basis of federal legislation misconceives the issue in this case. Precisely the same misconception was made more than forty years ago by the appellants in *Northern Securities Co.* v. *United States*, *supra*, 334-335, and was rejected by this Court. Inasmuch as Congress may protect the freedom of interstate commerce by any means that are appropriate and that are lawful and not prohibited by the Constitution, this Court in

the *Northern Securities Co.* case recognized that Congress may deal with and affect the ownership of securities in order to protect the freedom of commerce. Congress likewise has the power in this case.

In fashioning the remedy decreed by § 11(b)(1), Congress was following a pattern set many years ago by decisions applying the Sherman Antitrust Act, *Northern Securities Co.* v. *United States*, *supra*; *Standard Oil Co.* v. *United States*, 221 U. S. 1; *Continental Ins. Co.* v. *United States*, 259 U. S. 156, and the commodities clause of the Hepburn Act, *United States* v. *Lehigh Valley Railroad*, 220 U. S. 257; *United States* v. *Delaware, Lackawanna & Western Railroad Co.*, 238 U. S. 516. In so affecting the corporate structure of holding companies, it was exercising its power "to foster, protect and control the commerce with appropriate regard to the welfare of those who are immediately concerned, as well as the public at large, and to promote its growth and insure its safety." *Dayton-Goose Creek Railway Co.* v. *United States*, 263 U. S. 456, 478. It is clear, therefore, that § 11(b)(1) is invulnerable to attack under the commerce clause.

The constitutionality of § 11(b)(1) is also questioned from the standpoint of the due process clause of the Fifth Amendment. North American argues that this section, by compelling it to divest itself of its scattered subsidiaries and to confine its operations to a single integrated system, involves a taking of property without just compensation. It is also claimed that such evils as were found to exist in public utility holding companies find an adequate remedy in other sections of the Act and that § 11(b)(1) is therefore inappropriate. Neither contention is meritorious.[15]

The taking of property is said to involve "a vast destruction of values." Reference is made in this respect to the valuable right of North American's shareholders to pool their investments and thereby obtain the benefit alleged to flow from efficient, common management of diversified interests. But Congress balanced the various considerations and concluded that this right is clearly outweighed by the actual and potential damage to the public, the investors and the consumers resulting from the use made of pooled investments. Under such circumstances, whatever value this right

[15] The contention also is made that the fact that § 11(b)(1) requires disposition of security holdings and the termination of relationships which antedate the passage of the Act is fatal to its validity. But it merely requires that such holdings and relationships shall not continue in the future. There is no punishment for past events. Certainly there is no constitutional requirement that the status quo be maintained. See United States v. Trans-Missouri Freight Ass'n, 166 U. S. 290, 342.

may have does not foreclose the protection of the various interests which Congress found to be paramount. See *Northern Securities Co.* v. *United States, supra.* Nor does the value of North American's contributions as a holding company to the earning power and intrinsic value of the assets divested pursuant to § 11(b)(1) bar Congress from requiring such divestment. Congress has concluded from the extensive studies made prior to the passage of the Act that the economic advantages of a holding company at the top of an unintegrated, sprawling system are not commensurate with the resulting economic disadvantages. The reasonableness of that conclusion is one for Congress to determine. The fact that valuable interests may be affected does not, by itself, render invalid under the due process clause the determination made by Congress.

Moreover, there is no basis here for assuming that in limiting the scope of North American's operations there will be dispositions of securities for inadequate considerations, thereby raising a question as to whether there is a destruction of these values without just compensation. The Act does not contemplate or require the dumping or forced liquidation of securities on the market for cash.[16] Under §§ 11(d) and 11(e) of the Act, any divestment or reorganization plan must meet the standards of fairness and equitableness. In many instances this may involve no more than a distribution of the securities among the existing shareholders of the holding company.[17] But should securities be sold for cash, speculation as to unfavorable market conditions cannot undermine the validity of § 11(b)(1). Any plan of divestment or reorganization, moreover, must be carefully scrutinized by both the Commission and the enforcing court, thus enabling the assertion and protection of all shareholders' rights. See *Otis & Co.* v. *Securities*

[16] "As has been explained above, the title does not require the dumping or forced liquidation of securities. Such disposition as may be necessary can be accomplished by reorganization which will equitably redistribute securities among existing security holders. Insofar as there may be some redistribution of the securities of operating companies through investment banking channels, this will not result in a substantial net increase in the supply of utility securities on the market because for every block of operating securities distributed there will be a corresponding block of holding company securities retired. The net effect of such changes will be to strengthen the market for utility securities generally by replacing holding company securities with sound operating company securities. Such operations, primarily of a refunding nature, should strengthen rather than weaken the credit of operating companies." S. Rep. 621, 74th Cong., 1st Sess., p. 16.

[17] North American has already disposed of its holdings of Detroit Edison Company common stock under a plan distributing the stock to North American's stockholders over a period of time. In re The North American Company, Holding Company Act Release No. 4056.

and Exchange Commission, 323 U. S. 624. And there are provisions in the Act guarding against unduly rapid divestment or liquidation.[18] In the light of such statutory and judicial safeguards and in the absence of any alleged unfair plan of divestment, we cannot say that North American's shareholders are adversely affected, from a constitutional standpoint, by the operation of § 11(b)(1). North American's reliance on such cases as *Louisville Joint Stock Land Bank* v. *Radford*, 295 U. S. 555, is therefore misplaced.

It is true, as North American points out, that other sections of the Act provide for the regulation of many activities of holding companies and their subsidiaries, activities that were found to give birth to many of the evils about which Congress was concerned. But such sections regulate future transactions, whereas § 11(b)(1) is concerned with the existing structures of holding company systems. These structures in and of themselves have been found by Congress to constitute an evil that cannot be met by simply regulating future transactions. Congress, in the exercise of its discretion, has decided that it is necessary to reorganize the holding company structures. And inasmuch as it has the constitutional power to do so, we cannot question the appropriateness or propriety of its decision. *Sunshine Anthracite Coal Co.* v. *Adkins*, 310 U. S. 381, 394.

Finally, North American claims that it has engaged in none of the evils enumerated in § 1(b) and that it should be allowed to prove that fact. The contention apparently is that § 11(b)(1), as applied to North American, is unconstitutional since none of the evils that led Congress to enact the statute are present in this instance. But if evils disclosed themselves which entitled Congress to legislate as it did, Congress had power to legislate generally, unlimited by proof of the existence of the evils in each particular situation. Section 11(b)(1) is not designed to punish past offenders but to remove what Congress considered to be potential if not actual sources of evil. And nothing in the Constitution prevents Congress from acting in time to prevent potential injury to the national economy from becoming a reality.

The judgment of the court below is accordingly

Affirmed.

Mr. Justice REED, Mr. Justice DOUGLAS and Mr. Justice JACKSON took no part in the consideration or decision of this case.

[18] Under § 11(c), holding companies are given at least a year to comply with an order of the Commission under § 11(b). The Commission is also authorized to extend the time for an additional year upon a proper showing.